













continued from page 5

Some handicapped children can take full part in normal classes, provided they are given special facilities—ramps and handrails, special materials, non-teaching aides, and help from specialist teachers.

Where children with severe handicaps have been successfully integrated, the success has been based on very favourable special provision, and rigorous selection of children with high academic potential and social maturity.

An important condition for success is that there should not be so many handicapped children in any school that the nature of the school is substantially changed. Any arrangements must be compatible with the needs of normal children, and specialist teachers must be available.

Some children will need to spend time in special classes; where they do, the separate provision should be interwoven with work in ordinary classes. Others will need most of their teaching in special classes.

The committee believes that the slightest participation in ordinary class activities can be strikingly beneficial to children with special needs, and their total exclusion should not be accepted before every possibility has been considered.

The report lays down several conditions for successful integration. Encouraging joint activities for handicapped and normal children is not enough; they must be planned. Extra provision in the shape of accommodation, equipment and on-the-spot supporting services is necessary. Resource centres are needed.

The whole teaching staff must agree a plan for integration. A recent survey of special units and classes showed that although handicapped children benefited from some integration in normal classes, there would have been far greater involvement with normal children if there had been more planning, and the whole staff had been involved.

Before any handicapped child is admitted to a normal school, the teaching staff should agree a plan to integrate him as far as possible.

The implementation of Section 10 will demand very careful planning. Authorities will need to decide what ordinary schools can do, with reasonable help, and where special arrangements are needed.

Each local authority should have a comprehensive and long-term plan for special educational provision, and the Secretary of State should issue comprehensive guidance. The results should be monitored.

For integration to be successful a school needs appropriate accommodation, resources and staffing. And integration must be planned with regard to children's emotional needs: some children need the reassurance of a more intimate community than a normal large school. Integration is not a cheap alternative to special schools. "The pro-

vision of special facilities of a comparable standard to those in the best existing special schools will involve a very considerable amount of public expenditure and whether or not such expenditure is justifiable will be a matter of judgment by those responsible for the allocation and management of public resources."

## Future of special schools

Special schools will have a secure future as the main providers of special education for three groups of children: those with severe or complex physical, sensory or intellectual disabilities; those whose behavioural or emotional disorders are so extreme they disrupt ordinary schools; and those with less severe difficulties who, even with special help, do not perform well in ordinary schools.

To avoid isolation, links should be established between special and ordinary schools. New special schools should be built close to ordinary schools. Every I.E.S. should have special schools established as resource centres for research, curriculum development, in-service training and advice for parents, and some special schools should be designated as centres for rare and complicated disabilities.

Boarding schools should be used for residential assessment, and offer short courses for pupils in ordinary schools who are not keeping up with their work.

Separate special schools should be provided for senior and junior pupils; if impracticable, they should at least be organized in different departments. School hours should be lengthened to those of ordinary schools and the Taylor report recommendations on governing bodies should apply wherever possible to special schools.

Independent schools in England and Wales in 1977 catered for 30 per cent of all maladjusted children. The committee recommends that enough maintained special schools should be provided for those with emotional or behavioural disorders. Close supervision of independent schools is required.

The DES and the Welsh Office should maintain and publish a list of recognized independent schools. No school should be accepted without a full and thorough inspection by HMI.

All schools accepted by the DES should have governing bodies which include one representative from the local authority. The Secretary of State for Scotland should include independent schools catering for handicapped pupils in List G only if their proprietors agree to allow officers of both the sending authority and the authority where

the school is situated access to the school.

When a child has to go into hospital, arrangements should be made immediately for his education. When children are abandoned by their families and do not need hospital care, new homes must be found for them by social service departments: no child should ever enter hospital solely to receive education. Children who are in hospital for long periods must have contact with the outside world. Ideally they should attend local schools. Every I.E.S. should appoint advisers specializing in education in hospital and in home tuition.

## School to adulthood

Handicapped students should be assessed with a view to their future prospects at least two years before they are due to leave school. This assessment should be undertaken by a careers officer and other professionals in health and social services.

Careers guidance for young people with special needs falls far short of what is needed. "Fixed ideas are usually entertained about occupations suitable or unsuitable for young people with particular disabilities, irrespective of the degree of disability or other factors."

There is also a lack of specialist advice on the problems associated with different disabilities.

A National Children's Bureau study carried out for the committee found that the proportion of handicapped young people who had attended schools without a careers teacher was three times that of the non-handicapped.

Every special school containing older pupils should include a teacher with special responsibility for careers guidance. In addition a full-time specialist careers officer should be appointed for every 5,000 school pupils.

Both ordinary and special schools should give pupils with special educational needs more help in acquiring skills and vocational interests. There should be more opportunities for handicapped people in further education, and I.E.S.s should fulfil their duty in providing sufficient places at schools and colleges.

Children with special needs should also have access to sixth forms and sixth form colleges. Many do not at the moment. Special vocational courses should be laid on in some FE colleges and each region should contain at least one unit providing special courses for young people with more severe disabilities.

All universities and polytechnics should also formulate and publicize a policy on student admissions, explaining arrangements for welfare and special needs.

Research by the National Children's Bureau reveals much higher proportions of handicapped young people out of work as against non-handicapped. Industrial training boards should do more to encourage employers to provide employment and training for the disabled and more should be done along the lines of locally based Training Service Agency courses.

"We firmly believe that there is much greater scope for employing in open occupations many young people with disabilities or disorders who are at present unemployed or in some form of sheltered employment." Public services and nationalized industries should urgently consider new policies in this area.

The report also calls for a more generous use of discretionary grants to handicapped students.

## Training the teachers

Disseminated measures for improving standards among teachers of children with special needs are recommended by the committee.

A special education element

possible special educational need and cope with them, know what referral services were available, give some understanding of how to deal with parents, and be aware of what professional opportunities existed in special education.

During initial training an option in special education should be available. For teachers already in service a one-week course should be provided as a matter of urgency within the next few years.

Though a significant financial incentive should prove enough to encourage teachers of children with special needs to obtain a relevant and recognized qualification, a statutory requirement would ensure it. In-service provision by local authorities should be increased to make this possible.

The range of recognized qualifications should be extended to include a one-year full-time course. These would be recognized under Burnham and then the extra allowance to teachers working in special schools could be abolished.

Allowing teachers of certain subjects to teach handicapped without requiring a teaching qualification is an outdated view of the status of the subjects themselves. The additional teaching qualification at present required from teachers of craft, domestic or trade subjects.

The same "special education element" recommended in the initial training of school teachers should also be a feature of teacher training for further education but designed for the needs of young people over 16. A one-year full-time course leading to a recognized qualification in further education teaching oriented to students with special needs should be made available for teachers already in post.

The Open University could make an important contribution to in-service training in special education. The DES should grant aid the preparation by the university of a suitable course leading to a recognized qualification. College staff with expertise in special education must be deployed on a regional basis.

Teachers with, say, visual, hearing or physical disability could make a special contribution to the education of children with the same disability. There should be a right of appeal against any classification by a college medical officer at the end of a course that a student is unfit to teach.

## Expanding the curriculum

The quality of education offered to handicapped children is often unsatisfactory and limited in scope and challenge.

The committee reviews criteria for curriculum development and planning in ordinary and special schools, and for children with particular handicaps. It reports criticism that the special school curriculum is too narrow, concentrating on reading and numbers, history of wider aspects of English, mathematics, science and environmental and social studies.

In its visits, the committee found evidence to support the criticism, but also "much evidence to the contrary".

"It is evident from our enquiries that the skills and knowledge required to develop the curriculum in special education are thinly spread," the report concludes.

The Schools Council and Scottish Consultative Committee on the Curriculum should be given resources to adapt their normal curriculum materials for special needs, and to produce materials for particular small groups of children whose needs are not met by normal curriculum projects.

## Help from experts

Teachers need ready access to specialist advice when dealing with individual handicapped children. Over 85 per cent of teachers in a survey commissioned by the committee claimed they had not been visited in the past year by an adviser in special education, or a peripatetic teacher.

One in five of the youngsters leaving school this year will enter Britain's second largest industry—distribution. They'll work in retailing, in wholesaling, in the mail order business and in a variety of specialist "selling" trades.

Every one of them needs guidance in seeking out those employers who offer young people the best chance of a progressive career.

The Distributive Training Award is our way of judging employers in the vital areas of staff training and development. To earn it, companies have to satisfy us that their training policies and practice are of the best; then they're entitled to display the Award's distinctive symbol on their premises.

Boys and girls thinking of a career in distribution should be advised to seek out an employer who displays the black and gold symbol with the words 'Award for Staff Training'.

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## YOP: priorities are being sacrificed for sake of speed say critics

Lawrence has had connexions with Charles Brearley self-styled head of the Old Catholic Church of the

Nor is it entirely certain that all those who buy such qualifications are entirely aware that they are useless. A young Nigerian in this country once tried to use one of Duncan's certificates to get on to a business studies course the was

So why has not anything been done about these people? As early as 1933 the Associated Scientific Workers tried to get legislation through the House of Commons, but the attempt failed when it was realized that it would affect the Empire's ties. In 1960 the Commonwealth Vice Chancellors proposed a ban, but they were persuaded to postpone it until after the 1964 Labour election.

The advertisement says: "You will be free to choose the young man or woman with most to offer." It was an abdication of the whole

The institute is also anxious about the exchange deals which are being



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## Universities

Professor H. Smith, professor of plant physiology, University of Nottingham, to the chair of botany University of Leicester.

Mr. Gould says: "The present shortage of textbooks in many schools may not, in fact, be such a serious problem. Without them pupils may be making more sense of their biology classes."

Criteria for regarding boarding as desirable for a pupil include

running the courses, and examine the factors that bear on the choice between them.

choices made reflect some view  
e society, the individual or culture,  
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# the Health and Safety

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*Pam Ayres heads the panel of judges*

# building sites bite

“They’re full of danger everywhere  
Scattered all about  
Too many children venture in  
And never come back out.”

These are the last four lines of a Pam Ayres poem written specially for us and printed as a poster, which will be sent to all schools entering the 'Building Sites Bite' poetry competition.

It's a competition which will help your nine to twelve year olds understand just how dangerous building sites are. Get them to write a poem between 4 and 20 lines in length. Tell them to imagine they're convincing a younger child that 'Building Sites Bite'.

Prizes will be given to the poets themselves, not schools. Top prize is a radio-cassette recorder with cassettes. And there are plenty of others.

'Building Sites Bite' is also the name of a film the Health and Safety Executive made recently. We'll send you details of it, and all you need to know to discuss the dangers of building sites with your class or playgroup.

We've had a terrific response to our 'Design a Poster' competition on the same theme. This should be just as successful. Send off now for full details. It's a great way to drive home the point that a 'building site' means 'danger'.


To: Special Projects Section, Health and Safety Executive,  
Baynards House, 1 Chespostow Place, London W2 4TF

Please send me ..... copies of your Poetry Competition Pack.  
And also your Building Sites Bite Pack, with points for discussion  
and details of your film.

Name.....

**School/organisation** .....

**Address** .....


 ...

## The Health and Safety Executive

*[The following text is extremely faint and largely illegible due to low contrast and noise. It appears to be a continuation of a document or report.]*

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## Parliamentary reports, by Alan Wood

### Voucher plan 'ludicrous waste of public money'

Mrs Shirley Williams told the Commons last week she was delighted that those members of the Conservative Party who cared seriously about maintained education did not support the concept of a voucher system. It was a ludicrous waste of public money.

She was responding during exchanges on parental choice last week to Mr Gerald Fowler (The Wrekin, Lab), a former Minister of State at the DES, who commented that in submitting the fair name of parental choice, Dr Rhodes Boyson (Brent, North, C), an Opposition spokesman on education, seemed to have committed the Conservative Party to a voucher system for parents. He wanted to know what Mrs Williams thought would be the effects of introducing such a system.

She said her proposals on school admissions were issued last October and she intended to introduce legislation drawn up in the light of her consultations on these proposals as soon as the parliamentary timetable permitted. She was unable to shed any more light on that timetable.

Mr Tony Jessel (Twickenham, C) thought the drop in the birthrate made it easier for L.E.A.s to let parents have more say in the place

ing of children in schools than had sometimes been the case. Mrs Williams said the birthrate did present grave difficulties as well as great opportunities to local authorities because it was extremely expensive to run a school persistently under capacity.

She added later that parents should be able to express their wishes as between schools. Under the old selective system 80 per cent of parents got no choice. They were not interested in choice only for a small minority.

Mr Norman St John-Stevens, chief Opposition spokesman on education (Cholmsford, C), commented amid Labour protests that if the Prime Minister wished to be taken seriously in his new-found concern for the family, could they take it he would back Mrs Williams up in her losing battle with Mrs Caroline Benn and produce some legislation not just to close anomalies in the law but to expand parental rights and influence.

Mrs Williams said the Prime Minister had consistently throughout his ministerial career concerned himself with the interests of parents and: "As I have said before, we have always favoured the idea of parents being able to express their preference within the comprehensive principle."

### Anger at L.E.A. refusal of free milk

Mr Gwyn Roberts, Labour MP for Cannock, claimed last week that some "scrooge-like" authorities like Staffordshire were refusing to adopt the budget proposal empowering them to provide free milk.

"It is monstrous that some Tory-controlled authorities, although not breaking the law, should be effectively defying the will of the Government as expressed in the Budget."

"It was always assumed that education authorities would follow the Government's lead in these matters, yet now we have several of them refusing to implement this proposal. If more local authorities adopt this line, as I fear they will, there is a distinct danger of a return to the schools of years ago by when undernourished children were the rule rather than the exception."

Mr Roberts is to raise the issue in Parliament with Mrs Williams.



John Lester

### Charity status anomaly draws fresh protests

Many people mistakenly believed that if they paid extra they automatically got a better education for their children, said Miss Margaret Jackson, Under Secretary for Education and Science. She reaffirmed that the Secretary of State had no present plans to integrate public schools into the comprehensive system but remained firmly committed to the long-term aim in the Labour manifesto of phasing out fee-paying schools.

Miss Joan Lester (Eton and Slough, Lab) complained that the Chancellor seemed reluctant to take action over the anomaly in relation to the registration as charities of schools such as Eton.

Miss Jackson did not accept that Mr Hesley was reluctant. The difficulties were more substantial than might at first have been imagined.

Mr Robert Adley (Christchurch and Lynton, C) said the Labour Party would be better employed in trying to understand what it was about public schools which provided the sort of education which seemed to be advantageous, and trying to learn from the public schools rather than trying to abolish them.

### Push schools to teach politics

#### Tory urges Mrs Williams

Providing there was no political indoctrination, it was essential there should be more political education in schools to produce a well informed and responsible democracy, Mr David Knox (Leek, C) said in the Commons. Most schools were failing to give children political education.

He asked what action was being taken to persuade schools to include in the curriculum for 11 to 16-year-olds education for political competence, as suggested in the working paper recently prepared by JIM Inspectorate.

Mrs Shirley Williams said that while she had indicated her support for the study in schools of their political institutions, it was

for L.E.A.s and schools to decide whether to adopt the suggestion of the recent JIM working paper. Copies of the document had been sent to all L.E.A.s.

● A national forum should be set up to study not just teachers' but their conditions of work, Mr Fergus Montgomery (Aberdeen and Sale, C) said when he drew attention to a ban in some areas on teachers on out-of-hours activities.

Mrs Shirley Williams said that conditions of service were a matter between teachers' employers and teachers' organizations. She would be willing to consider a professional committee of teachers' organizations could forward agreed proposals.

### HMIs reviewing special units

Miss Margaret Jackson, Under Secretary for Education and Science, told Mr Edwin Wainwright (Deane Valley, Lab) that she was well aware of the difficulties faced by children who had disorders of speech or language. The identification, assessment and placement of individual children were matters for the L.E.A. concerned, in consultation with the parents.

In relation to the provision made in special schools, L.E.A.s were increasingly setting up classes and units for these children in ordinary schools. HM Inspectorate were currently reviewing some of this provision.

Mr Wainwright maintained that thousands of parents were deeply disturbed about the future of their children who required special teaching facilities.

Miss Jackson said the DES did its best to encourage L.E.A.s to offer special facilities in a variety of ways.

### Questions

Corporal Punishment: A. To head teachers about use of corporal punishment in schools, said Miss Jackson, was a matter for L.E.A.s. She understood that about two-thirds of the authorities in England, regulations or issued guidance teachers about this. She regretted that corporal punishment could not be used in schools.

Inspections: Mrs Williams said HMIs were undertaking a gramin inspection in schools during the academic year ending August 31, 1978. In a much larger number of schools were being visited than in the past, but it was impossible to make their number.

School transport: There had been preliminary discussions at a level with representatives of local authorities, said Miss Jackson.

### Sport

#### Golf title goes abroad

by Stanley Levenson

Sundagardens, Falkenberg, Sweden, the first foreign team to compete in the international finals of the Aer Lingus Schools golf tournament, walked off with both prizes in the boys' event at Connemara, Republic of Ireland, at the weekend. They won both the team and individual competition.

With a three-card total of 482 over 36 holes the Swedes were five strokes better than the Scottish champions, Robert Gordon's College, Aberdeen.

Their leading player, Per Jonsson, had a two-round total of 152 (73, 79) which might have been equalled by Brandon McQuaid, of St Patrick's High School, Galway, but McQuaid took a six at the last hole after bunkering his approach shot, and finished on 153.

Junior Scottish only 13, 14, splendid round of 72 to win Girls' championship for her school, Prudhoe High School, Northumberland. The 16-year-old partner, Barbara Wilson, who lives in the street, took 85 to give Prudhoe an 18-hole total of 161, four less than Ireland's representative, Loreto Convent, Ballinacorney, Dublin. Results: Boys' Championship, 482: 1, Robert Gordon's College, 487; 2, St Patrick's High School, 495; 3, Bishop's Cleeve School, Swanssea, 501; 4, Grammar School, Dorchester, 503. Girls': 1, Prudhoe High School, 161; 2, Loreto Convent, 164; 3, Abbey Academy, Aberdeen, 175; 4, St Thomas Joseph's, Andover, Wales, 196.

### Joanne walks off with top prize

Joanne Wickham and Elaine Cox, West Midlands schoolgirls who have taken turns to defeat each other in recent years, clashed again at the school national walking championships in Crofton, Miss Wickham took the prize this time.

They pushed reigning senior champion, Margaret Degnan (Surrey) into third place. But the 1977 senior boys' champion, Mark Wordsworth (Kent) retained his title.

Karen Eden, another of the powerful West Midlands contingent who won the junior event last year, repeated her success in the girls' middle distance.

Surrey walkers won three events: J. Harvey (junior girls), S. Mariner (junior boys) and Graham Vale (intermediate boys) but, as in previous years, the West Midlands demonstrated strength in depth by taking four of the ten titles coming second and third in the other two.

### Footballers face Wembley test

After the parade of 10,000 footballers in recent weeks to Wembley in recent weeks, the schoolboys of Scotland and England will face a similar test at Wembley this weekend.

This is the second of two matches at football between the first, against England, which resulted in a 1-0 defeat for Scotland.

Having already won a 1-0 victory in the first match, Scotland will now have to get a clean sheet to win the second.

Mr. Muir, of Celtic, Glasgow, who was named Queen of All by the Scottish Football Federation, will be in the team for the 6-0 defeat of May Day, kept the same 16-strong squad in the same 16-strong squad in the 1-0 defeat of May Day.

## Supreme Court to decide on teacher's right to be British

WASHINGTON  
Susan Norwick is a British teacher married to an American lawyer. She has settled in America with an American family but she does not want to become an American citizen. Her desire to remain all-British will lead her to the Supreme Court later this year for an important constitutional ruling on aliens' rights.

Last week the court, America's highest, agreed to hear Mrs Norwick's five-year-old lawsuit against New York State, which refused her a teaching certificate because she would not apply for United States citizenship.

The nine Supreme Court justices will decide whether the state law, requiring public school teachers to be US citizens or to agree to seek citizenship, violates the American constitution.

Mrs Norwick and a Finnish teacher, Tarja Daehlinger, who was refused a New York teaching certificate for the same reason, started a legal battle against the state in 1973, with the support of the American Civil Liberties Union.

In 1976 a federal court in New York ruled in their favour, agreeing that the citizenship rule violated the individual's constitutional right to equal treatment under the law, because it discriminated against aliens as a class.

The state argued that its rule was introduced to ensure that all public teachers were qualified to transmit America's heritage and ideas to their pupils—they could only show a true fitness to convey

Clive Cookson reports from Washington on an important constitutional issue

the American spirit by applying for United States nationality if they did not have it (the rule does not apply to teachers who are not fully qualified to become citizens).

But three judges held that the New York law was so sweeping in its scope that it was "damned by its very heritage" and "repugnant to the very heritage of the state is seeking to inculcate."

"It excludes all applicants, regardless of nationality, from all teaching positions in the public schools system, regardless of grade level or subject matter", the court said.

"This imprecision becomes even more glaring when one considers that the prohibition does not extend to those who teach New York children attending private schools."

And that is precisely what Mrs Norwick did. She continued to teach at the private elementary school in New York City where she had been working before applying for a state teaching certificate. "I really wanted to teach in a public school, both for the experience and because I would get a higher salary", she says.

Mrs Norwick says she was willing to agree to "uphold the constitution" but not to seek citizenship.

### Malta

#### Two-day strike over time to celebrate Carnival

by Carl Slevin

Malta's Union of Teachers went on an almost unprecedented strike for two days in protest at the government's decision to reduce the holiday entitlement of members as laid down in a 1975 agreement.

According to the MUT, about 85 per cent of all teachers, some of them not union members, came out and many parents kept their children at home. The government, on the other hand, claimed that many fewer teachers took part and that education went on more or less as usual.

Clause Six of the 1975 agreement which regulates conditions of employment for teachers in state schools, details school holidays and includes Monday and Tuesday of Carnival, the celebration at the same time as the British Whitsun but with all the spirit and enthusiasm of Mardi Gras.

Carnival used to start on Friday evening and end on Monday. For days, Government employees, and most workers in para-statal bodies (equivalent of nationalized industries) and private industry had half-days on the Monday and Tuesday.

This year, however, the government restricted the celebrations to the weekend and abolished the holiday in order to avoid more conflict with workers at the Malta dry docks

arrangement and last year walked out on an unofficial strike for the two half-days.

The MUT objects to the change because its agreement specifically lists the entitlement but the government claims that the holiday was abolished automatically with the shortening of Carnival.

There was no consultation before the Department of Education announced the decision at the meeting with the MUT in April, and the union's request that the dispute should go to arbitration has been refused.

Since the strike, Dr Philip Muscat, the Minister of Education, has accused the MUT of political motivation—a reference to the long standing series of disputes between the Confederation of Malta Trade Unions (to which the MUT belongs) and the government, which has led to strikes in many parts of public service, including one by doctors, which started last June and is still continuing.

In a statement issued on May 16, the MUT accused the government of "intimidation, coercion and blackmail" and promised to reveal details of specific cases when "protection from victimization" could be ensured.

### Mexico

#### Primary exams abolished

from Emil Zubryn

MEXICO CITY  
The Ministry of Education's decision to abolish term and final examinations in primary grades in Mexico City has been severely criticized by educators. The Ministry claims that a system of permanent assessment is preferable to examinations.

The education authorities have extended the scheme across the country. One advantage, says the Ministry, is that there will be no suspension of classes for examination periods.

The educators argue that if the permanent assessment scheme is extended to institutions of higher learning, as has been rumored, the republic's already serious educational problems will be made even worse. They think it is not possible to evaluate a student's knowledge and learning capacity without examinations.

faculty of the Metropolitan Autonomous University (Mexico City) said the suppression of examinations was "absurd since it does not allow for any evaluation of the grade of acquisition of knowledge by students, be it in primary or higher education grades."

One of the basic problems in Mexico has been dropping out by students at all levels. This is usually due to economic problems but a high, uncharged number of individuals abandon studies because they find them too difficult.

In the universities it has been noticed that students vacillate in studying for careers, abandoning a "difficult" course of studies after a year or two. Recently the students have been campaigning for an "automatic" passing system but this leads to poorly qualified students and poorly prepared graduates.

Francisco Flores Cruz, of the law

### Holland

#### Cabinet asked for cash to keep children on at school

from John Richardson

THE HAGUE  
Education Minister Dr Aric Pais has asked the Dutch cabinet for 400m guilders (£100m) to be used to ensure that 16 and 17-year-olds remain at school rather than join the ranks of the unemployed. It granted, the money will be distributed by the Ministry of Education.

This is intended to counteract the side effects of a series of measures designed to reduce Government expenditure which threaten the current generous financial support to parents of students aged over 16.

The threatened economies are likely to take effect from next January and they will probably lead to the ending of tax advantages and a reduction in direct allowances for the parents of older school students.

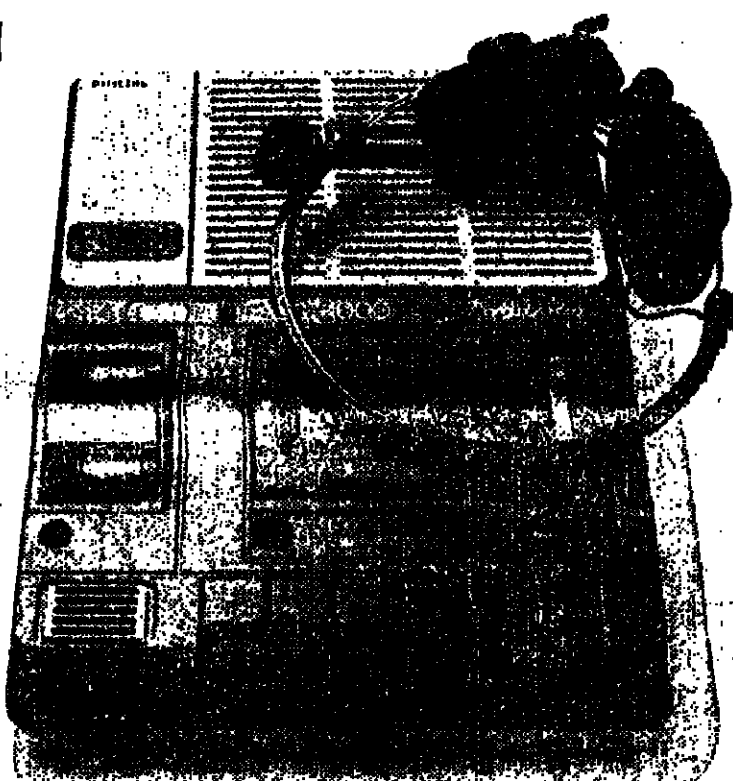
At present the wage-earning parents of a "sixth-form" child who lives at home, receive a higher children's allowance. Up to the age of 16 the child would have entitled the parents to 658 guilders (£160) a year. When he stays on at school the parent becomes eligible for an annual allowance of 1,096 guilders (£274). If the child leaves school at 16, the child allowance

ends. Also tax allowances for parents of older children are attractive, especially for the higher income groups. An employed person with one child below 16 is allowed 10,685 guilders (£2,664) per year allowance to be set against income tax liability. On reaching 16 and remaining a student the child then entitles the parents to a higher offset against tax of 11,244 guilders (£2,810).

When a sixth-former goes on to higher education the fiscal position of his parents becomes even rosier. An employed person with a child studying away from home becomes entitled to a child allowance of 3,335 guilders (£817), even though nothing may be being paid towards the child's upkeep.

He is no longer, however, entitled to income tax allowances unless he contributes 38 guilders (£9) per week for upkeep, when the personal allowance for the income tax continues. When he pays for more than half of the student's upkeep the parent becomes entitled to more to offset against tax, and on paying more than 50 per cent of the upkeep, up to 11,802 guilders can be offset against tax.

### Arnold



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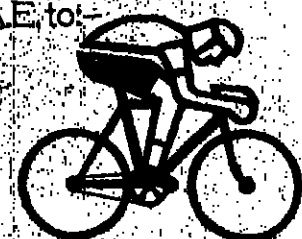
Viking are looking for the fastest under-13 and under-15 year olds over 400 metres from each school to go forward to 1 of the 8 regional finals, and then the National Finals in Harrogate on August 6th.

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For further information send S.A.E. to:

Geoff Mayne  
National Entries Co-ordinator  
22 Quaves Lane  
Bungay  
Suffolk NR35 1DF



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**CHALLENGE CUP**  
1978 National Schools Cycling Competition

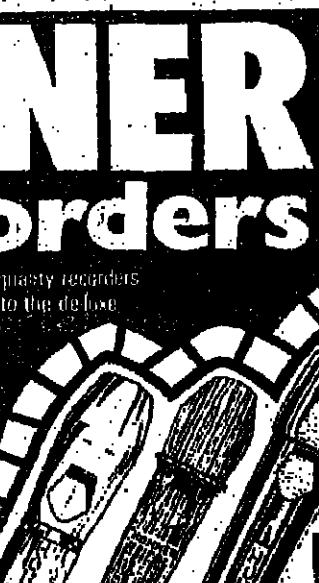


from their friends in the schools, to bridge this gap without broadening the three-year degree.

For a start universities and schools could make greater use of the summer term in the final years of their courses. Those universities that have abandoned all teachings in their final term would need to look no further.

Fred Naylor

*Fred Naylor is a former sixth-form curriculum and examination officer at the Schools Council.*



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Further information from The Secretary at the School of Art Education.

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## Youthful coordination in Essex

Sir—While welcoming Mark Jackson's article on the Essex initiative to establish a coordinated approach to providing a youth opportunities programme in the four main centres of unemployment in the county, I would wish to clarify some of the issues, particularly in relation to the role of careers service and the voluntary organizations.

The county scheme envisages that all the resources, expertise and facilities of the education department which can have any benefit for young unemployed people should be made available and drawn together, in cooperation with the voluntary organizations, in a coordinated approach.

The problem of young unemployed is twofold: the need to gain full-time paid employment; and the need to use the period of unemployment to motivate them to seek employment and give them the

social and work skills to succeed at job interviews. The concept of the four centres has been developed jointly by the community education service and the careers service. Centres, when established, will be staffed by specialist personnel recruited specifically to fill the variety of jobs required to service the community service projects, the training work shops and the provision of both life and social skills and basic education courses.

The careers officers will have a major role to play in recruiting young people into the programme and advising the project manager of the most suitable section of the project for the particular individual. Once the scheme is in operation, the careers officers will be in constant contact with the trainees through the centres, with the aim of finding them suitable employment at the earliest opportunity.

The community education officers' involvement will be in the

social education programme, also, through the community voluntary organizations, funded by the county council. The scheme in Harlow will very closely with the Harlow City Voluntary Service, which is a project-based work experience scheme for young people, run by the local Scout group, in conjunction with the Harlow City Council. The scheme is also of interest to the community education department and project based work experience will be incorporated into the coordinated programme.

Any assessment of the importance of the section of education department involved in this joint enterprise is not our intention, and is not together the expertise of all the staff and all the facilities available.

J. A. SPRINGETT, Education Officer, Essex County Council.

## When free choice limits choice

Sir—In the TES of May 5 you carried a front page article on the "voucher scheme" and its problems. However some of the most likely problems to emerge from this scheme were not spelt out. The voucher scheme has a peculiar logic. It is intended to increase parental choice yet it is likely to do the opposite. If a particular school attracts too many applicants it is faced with the following dilemma: either it employs the mobile classrooms opposed by many teachers or it uses the only coinage this particular supply and demand problem affords—ability.

If it chooses the former then parental choice is limited in a weak sense in that the product they opted for could be something else. If it chooses the latter then parental choice is limited in a strong sense and less able children and their parents will only be able to choose among the less popular (and thus worst) schools. It is not enough to reply that this is unlikely to happen because parental choice is not uniform; there is something alarming about planning an education system in the hope that its logic will not reach its conclusion. In addition to this the voucher system would be likely to make parents more educationally aware and thus more likely to reach a consensus about what is basically good in education and thus the conclusion described above is even more likely to be reached. Freedom is not an absolute concept. To concede freedom of choice in one sense is to limit in another. Responsible newspapers should be careful of reporting conservatism: claims to increase "freedom" in the abstract without considering this limitation.

DANIEL JEFFREYS, Post Graduate Certificate of Education Student, University of London Institute of Education, Bedford Way, London, WC1.

## The professionals

Sir—Now that Berkshire has joined Avon and Rotherham in realizing that the education service must be staffed and operated by fully professional education officers, I hope that the essential corollary of this will not escape notice.

Unless there is a steady recruitment of high-quality and qualified staff from schools, there will be no chief education officers for the next generation. And unless something is done about the financial disincentives for leaving teaching for educational administration, there will be no recruits to the "office". The choice is as simple and as critical as that.

JACK CHADDERTON, Director of Education, Newcastle upon Tyne.

## Incompetence

Sir—My friend Harry Judge, head of Oxford University education department, suggests machinery for dealing with incompetent and inadequate teachers. Will he address his fertile mind to dealing with the problem of incompetent and inadequate university education staff? His views will be welcomed by competent and adequate teachers.

He also thinks it is time to end the unlimited tenure of heads. Will he tell us if he thinks also that it is time to end the unlimited tenure of heads of university education departments?

MAX MORRIS, Headmaster, Willenden High School, London NW10.

## Whose literary yardstick?

Sir—I wonder if this comment by a teacher on a sixth former's literary appreciation essay would be of interest to you:

Perceptive in the sense that you have recognized and interpreted the various techniques, insensitive in that your response has been generally contrary to what everybody else (including the examiner who set the paper last year) has reacted to.

It would be interesting to read something about literary criticism in your paper. How far is a teacher entitled to impose his own views, the views of the majority and the views of the examiner?

Do examiners of English literature

papers in general wish the students to identify with their (the examiners') views? How far is the opinion of the student accepted when it comes to evaluating an examination paper? Is there only one interpretation of a book, a passage or a word that is acceptable? Surely there must be as many interpretations as there are readers.

It would be very much appreciated if you could comment from teachers of English and examiners of English through your paper. ANNE NEWMAN, Court House, Blunham Discead, Chertsey, Surrey, Surrey.



"Oh I'm all for the voucher scheme. We could affect it as a tutor."

## Accountable to the customers

Sir—The front page headline of May 5, "Voucher survey," says somewhat better than the article's main conclusion, that the importance of the statement that most of the people who were questioned, showed a preference for a voucher scheme. Furthermore, by stating that only one in 10 would opt for a change of staff, it proved the responsible nature of their attitudes to matters of choice.

Is this scheme not a way of involving parents through their children's education, enabling the education to become truly accountable to "customers"?

There is nothing new in this. In parents knowing the professional qualifications of their own experience as a teacher, they sign a teacher's contract, enhanced by their own information.

The voucher system of every school would require confidence and a desire to improve. They would be the satisfaction of knowing that the school was doing its own work for the school, who choose to use school vouchers.

Any person-to-person contact would increase the school's confidence. The school would be a more responsible employer of the local community. The school would be a more responsible employer of the local community.

It is a pity that the school is not a more responsible employer of the local community. It is a pity that the school is not a more responsible employer of the local community.

It is a pity that the school is not a more responsible employer of the local community. It is a pity that the school is not a more responsible employer of the local community.

## Corporal punishment: should it have any place in our schools today?

### Thrashing: so much better than mush

Sir—As a teacher with experience across the whole gamut of education, both private and maintained, it is abundantly clear to me that the contributor of your article "Is it a moral question?" can only be a probationer: it would, I maintain, be as well if that person took the advice of experienced colleagues, that "teaching is not for you".

While not recommending physical punishment for girls—though many doubt that a good thrashing is often the most satisfactory method of dealing with boy offenders—certainly in the secondary area of education. It is just this soft, inexperienced "mush" that is responsible for the increasing difficulty in keeping discipline.

G. M. BLAIR GOULD, 4 Moorlands, Wilderness Road, Chislehurst.

## Success without the birch

Sir—As a former secretary of the Society of Teachers Opposed to Physical Punishment, I naturally regret that Mr Wood (TES, May 12) should find our liberalism "boring and irresponsible". And yet, as I look back on my own, albeit limited, experience as a teacher, I can help reflecting that those schools which had no use for the cane, birch or slipper also had a remarkable degree of success in dealing with large numbers of often difficult and disturbed children.

We really must stop pretending

that "old-fashioned methods" are necessarily best. A good teacher has no need to resort to the cane in or out of the classroom and while I can think of precious little to say in favour of our continued membership of the Common Market, it is at least true that our European partners have outlawed corporal punishment in their schools.

CLYDE CHITTY, Vice-Principal, Earl Shilton Community College, Heath Lane, Leicester.

## Naive notion Don't do as I do, do as I say

Sir—The validity of the assertions in the article "Is it a moral question?" was greatly undermined by the writer's opening statement. He blithely declares that he had "somehow assumed corporal punishment had been outlawed but if he knew so little about schools immediately before taking up teaching it shows a terrible naivety or ignorance—qualities not renowned for providing a sound basis for sound judgement."

K. SANDU, 222 Lodge Lane, Rofford, Essex.

## Worthy of a banana republic?

Sir—That a country which prides itself on its civilized standards and democratic principles should have a teaching profession too many of whom possess authoritarian and defensive attitudes more worthy of a banana republic or those countries deemed backward economically, I fail to understand. Teachers who are kind to old ladies and pass adopt most belligerent attitude to the disciplining of children.

The Confederation for the Advancement of State Education once again affirmed at its annual general meeting in April this year, its opposition to corporal punishment. But it went further and urged all CASE groups to press for its replacement by more constructive methods of dealing with disruptive behaviour.

We would like to see teachers and parents setting together to force a joint policy on discipline in schools. We feel that both parties would learn a great deal about each others problems and hopefully a more consistent approach to the management of children would result.

Large classes must also be an additional burden to many teachers which certainly must exacerbate behaviour problems and, alongside the reduction in other resources, must lead to crises in certain schools. CASE further urges the Secretary of State to undertake and publish an inquiry with a view to strengthening support services for children at school where social services have not kept pace with needs. ELIZABETH WALLIS, Richmond C.A.F., 25 Leyburn Park, Kew Gardens, Richmond, Surrey.

## Weapons in a battle for words

Sir—Recent American attacks on a course of study cannot be ignored by those who are concerned with the powers and autonomy of the learner as a means to increasing competence. That is the only curriculum I know which provides progressively graded reading in a science area, and we have had interest in it from teachers of English as a foreign language.

A parallel attack is that on the "Humanities project", again a reading skills curriculum, adopted by a famous public school for that quality and favourably reviewed in that light by the Bullock report.

## LETTERS

### Corporal punishment: should it have any place in our schools today?

We all have our anecdotes. My own impression from working in some 25 schools covering all age ranges in three different authorities is that matters of discipline are usually more complicated than they seem: disciplinary procedures may or may not tell us about how caring, or happy, or close, staff-child or staff-parent relationships are. It is hard to make very convincing generalizations.

Teachers, however, have struck me as being in general impressively cautious in using punishment (including physical punishment)—a cautiousness expressed in their conservatism, which is in turn a bulwark to their patience—this despite (a) evidently increasing discipline problems (b) increasing pressure from the community to tackle indiscipline. This is paradoxically unfortunate, perhaps, for those of us who would like to see some changes in depth. My impression

Certain practices he describes strike me not only as manifestly unprofessional, but surely beyond the law and should properly be brought to someone's notice. As it stands, anonymity merely inclines the reader to disbelief.

## Stressed, but not sadistic

Sir—I can sympathize with the writer of the article for as a young teacher in a duckland school in Liverpool, I was told "there is only one language they understand". I believed then, and I am convinced now that the least we can do is to make them bilingual! Unless an alternative can be presented to young people, how can we expect them to behave differently in their own lives?

However, there is a danger that some of those opposed to corporal punishment overlook the conditions under which teachers work in some of our urban schools. Few of them act in a sadistic manner but all of

is, certainly, that we do need to spend more time examining the dynamics of school relationships in relation to the outer apparatus of discipline. We have not yet answered fully the question of where punishment "fits into" relationships in school, what really is the most appropriate (i.e. sensible, caring, humane) policy in relation to the expectations and needs of children and parents. It could be that for the moment, the school is right to model itself on more reasonable traditional family practices in its area.

Certainly an article of this kind is not much help to those who would like to see considered (and perhaps considerable) changes in the way some teachers relate to their children.

DR D. R. WINKLEY, 35 Underwood Road, Handsworth Wood, Birmingham.

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Further details may be obtained by sending a S.A.E. (at least 20 x 10 cms) to:

R. C. Skinner, Secretary Summer School,  
M.P.C.C. H.Q.,  
Aerodrome Road,  
Hendon, London, NW9.



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(Bergman Osterberg Trust)

Principal: Mr. K. Challinor, M.A.

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Application forms and further details from:

The Registrar, Thames Polytechnic, Dartford College of Education, Oakfield Lane, Dartford, Kent.

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The course starts in September 1978.

Further details from either: Mr W.B. Shaw, Department of Librarianship, Newcastle upon Tyne Polytechnic, Northumberland Building, Newcastle upon Tyne; or, Mr A.C. Tansley, In-Service Education Officer, Newcastle upon Tyne Polytechnic, Coach Lane Campus, Coach Lane, Newcastle upon Tyne NE2 7XA.

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# Not quite ladylike?

Despite legislation, the chances of girls competing on equal terms for 'male' jobs remain slim. Report and photographs by Liz Heron

It is now some two and a half years since the Sex Discrimination Act broke the legal barriers to women and girls obtaining training and employment in the same areas as men. But are girls who are now leaving school in any better position to take up the jobs to which they were previously denied access?

In 1974 only 2.1 per cent of the young people entering apprenticeships in manufacturing industries were girls, and as few as 0.3 per cent in construction. Comparable up-to-date statistics are not available, but the National Joint Council for the Construction Industry reports that about 25,000 three-year full-time apprenticeships are registered.

Of these, eight are "young ladies": one bricklayer, one mason and six woodcutting machinists. While these figures exclude a number of alternative training schemes and accelerated apprenticeships, they are none the less a fair indication that there has been no significant increase in the number of girls entering craft-level employment in the industry.

Yet it would be inaccurate to suggest that things are no different from what they were before the Act. Training Opportunities (TOPS) courses run by the Training Services Agency of the Manpower Services Commission have opened up the area of training in craft and technical skills to women. Yet although the agency put forward a programme of action in 1975 "as an important complement to the Equal Pay Act and the Sex Discrimination Act", it is still only a small minority of women who are being trained, though a considerable improvement is indisputable.

No of trainees in Skill Centres (traditionally male jobs)		
Year	Total	No. of women
1975	18,000-19,000	55
1976	20,000	535
1977	23,000-24,000	616

But TOPS courses only provide basic training, which then has to be completed in employment; and they are not open to school leavers, since entrants must have been away from full-time education for at least three years.

Whatever the limitations, there is no doubt that women applying for Government training schemes will encounter less discrimination than school leavers competing for apprenticeships. Many cases of discrimination by employers are difficult to prove: the onus of proof is on the woman who feels discriminated against, whereas the opposite is the case in other industrial tribunals.

Although girls leaving school and seeking apprenticeships are having little success, it would be a mistake to concentrate on improving legislation, and ignore the reasons why so few girls even consider applying for apprenticeships. The fact that a girl is more likely to become interested in the possibility of craft training after a few years away from school has a lot to do with unrealistic job expectations.

If it is a choice between working in a boutique or being a plumber, there are no prizes for guessing what a 16-year-old girl would opt for. But the glamour of the job will often have faded into boredom and frustration, after a couple of years and no prospects of better pay. By the end of three years away from school a girl may have gone through a series of mislaid and low-paid jobs, while a boy who started with the same kind of qualifications could have completed an apprenticeship, and be equipped with a skill and a superior earning capacity.

One area in which apprenticeships have traditionally been open to girls is hairdressing, but it is one of the worst paid jobs. Undeniably there are fewer apprenticeships to go round these days, and boys also go into unskilled work.

At issue are the definitions of "girls' jobs" and "boys' jobs". When these are taken into account, the choice of careers open to girls leaving school with little in

the way of qualifications would still seem to be restricted to unskilled or semi-skilled work. As unemployment rises among 16 and 17-year-olds, girls represent an increasingly bigger proportion.

What often goes unchallenged is the assumption underlying the choices—that within a few years girls will get married and leave work, to pursue the more fulfilling activity of full-time wife and mother. The statistical reality is that most women return to work as soon as children reach school age, or even before.

On average women spend most of their adult lives working outside the home, with interruptions of a few years for child-rearing. The latest figures (1974) account for women as 40 per cent of the total workforce. Yet girls tend to look forward only so far as marriage.

The 1975 ILEA report, *Careers Opportunities for Women and Girls*, emphasized the importance of careers teaching providing positive encouragement to girls in the choice of traditionally male jobs. Yet the evidence is that girls are rarely encouraged, if not actively discouraged, in considering work in manual trades.

Pupils often lack information about the realities of work, and have misconceptions about what different jobs involve. Many girls reject manual work like plumbing and carpentry as heavy, dirty, and consequently "unfeminine", without realizing that much of the unskilled work done by women in industry is often heavier and dirtier.

A 21-year-old typist may keep her hands clean, but it is almost certain that she will be doing a "male" job, repetitive and certainly less well-paid job than a 21-year-old plumber. Of course, it would be absurd to suggest that all typists would be happier working as plumbers, but the choice does seem to depend much on notions of what is feminine—not getting dirty and wearing nice clothes to work.

A group of women in the construction industry are making efforts to dispel these myths. They give talks in schools, and workshops for girls at youth centres. Whether it is bricklaying, carpentry or plumbing, the job is certainly hard work, but does not often demand the super-muscular powers women imagine.

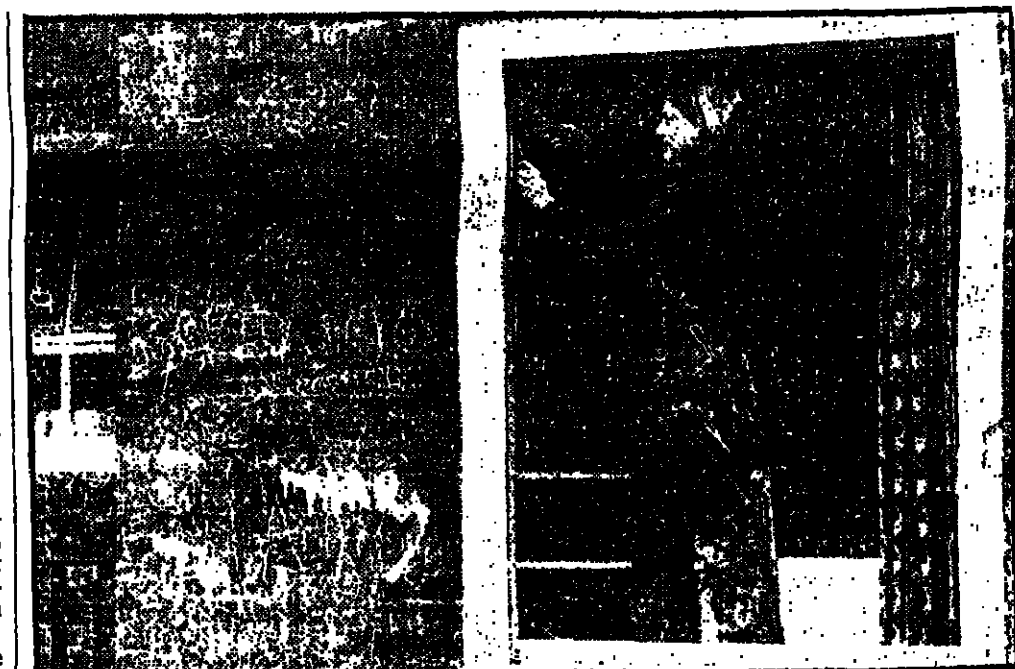
A plumber explained: "If there's something I can't lift it will probably be too heavy for the men as well. Anyway, heavy jobs are usually two-person jobs." A carpenter said her work required precision and manual dexterity rather than physical strength. She talked about accidents at work: "It is common for people to saw into fingers or hit the hammer in the wrong place, but I've never done anything like that. Perhaps I'm a bit more of a perfectionist, and that means I don't rush through the job."

Women agree that one of the roughest aspects of working in traditionally male areas is non-acceptance by male workers. The few women already in manual trades are still isolated.

A mass of careers teaching material exists, which could contribute towards a clearer understanding of different types of work. But much of it remains unused, principally because careers teaching is inadequate or even non-existent in many schools. Sometimes attempts to encourage girls to question traditional roles are met with disapproval or derision from other quarters, although the Sex Discrimination Act states: "It is unlawful for the responsible body for an educational establishment to discriminate in the way it affords a pupil whom it had admitted to the establishment access to any benefits, facilities or services."

To erode the myths that are at the root of discrimination is not easy, particularly when the mass media plays such an important part in perpetuating them. Teachers and careers advisers can perhaps begin by questioning their assumptions about pupils' needs and expectations.

Women in Manual Trades' are at 21 Bowyer Road, London, N47.



A carpenter (top) and a plumber (above), two of the few women in their trades.



Children as well as teachers can make use of the Centre's resources.



# Oh, what a lovely war



Luke Martin (Jon Voight) and Sally Hyde (Jane Fonda) in "Coming Home".

Vietnam was the first

television war.

Nicholas Wapshott looks at

the ways in which

American film directors have been

treating the subject

In Peter Davis's documentary assessment of the Vietnam war, *Hearts and Minds*, a Vietnamese tells the camera: "First they bomb us then they come and photograph it all." He was talking about the news cameramen. Hollywood film makers kept out of the war. The nearest they came to South-east Asia was Fort Benning, Georgia, the location for John Wayne's *The Green Berets*.

Why the American film industry could not bear to make films about the Vietnam war is not clear. It was, admittedly, a very dirty war against an unseen enemy which split the United States in two. And yet even from the beginning, Hollywood turned its back on what would normally have been an excuse to further exploit the public's appetite for war action pictures.

American film directors felt on safer ground restaging the successes of the Second World War, with such films as *Battle of the Bulge* (1965) and *The Victors* (1963), as well as celebrating less fashionable heroes of that war, as in *Patton* (1970).

Perhaps the studio bosses had a hunch that the war in Vietnam would turn out as it did, a bloody, senseless, and ultimately futile war. They were unlikely to be wrong. The war fell far below the level of the great American commitment to both the Second World War (*A Force in the North Atlantic*, *This is the Army*, *Purple Heart*, and *Jojo's Bizarre World*) and the Korean war (*War is Hell*, *Love is a Many Splendored Thing*) without questioning the outcome.

Perhaps they simply thought that it was all being overdone. Vietnam was the first television war, brought to the people in daily episodes on the seven o'clock news. After three grim, grinding, newsweeklies, any attempt by Hollywood to glamorise it would look like cheap exploitation.

For whatever reasons, the Vietnam war was left unfilmed from the outset. And as it progressed and became less and less popular, Hollywood decided that it was best to leave the subject alone until the fighting was



Stan Shaw, James Whitmore Jr., and Andrew Stevens in "The Days in Company".

over. It is an interesting reflection on the difficulty a "war" has in putting the horrors of involvement in the arguments and recriminations of the war. The poets and folk singers who did articulate the nation's worries and misgivings thrived.

Hollywood did not ignore the war entirely. Robert Altman's *M\*A\*S\*H* (1970) was nominally based on the Korean war, but was generally interpreted as an indictment of the wholesale slaughter of noble, peace-loving Red Indians by the landgrabbing white cavalry, was intended as an analogy of the Vietnam predicament. (Doubts have been cast on the sincerity of Nelson's motives for this claim.)

The only major portrayal by Hollywood of fighting was the war *The Green Berets* (1968), John Wayne, aged 61 and an acknowledged Communist-hating hawk, persuaded Warner Brothers to finance a tribute to the fighting forces in Vietnam which he would direct and star in. It was an unashamed piece of belated propaganda, described by David Robinson as "a war movie for the ages".

A short documentary by Euzhan S. Jones, *A Face of War* (1968), was a more objective account of what it was like to fight in Vietnam. During the 87 days filming schedule, more than half of the company Jones was accompanying, the 7th Marine Regiment, had been killed. It was not until the war was all but over in 1974, that a full-scale account, *Hearts and Minds*, directed by Peter Davis, brought home the full horrors of the conflict, the arrogance and ignorance of the Americans, and the helpless resignation of so many Vietnamese. The film won the Best Documentary Oscar for 1974.

Now that the war is over the young and more radical of America's film directors have been picking up on lost time. Films about Vietnam veterans are now a regular part of

the US film scene. Usually they turn on the difficulty a "war" has in putting the horrors of involvement in the arguments and recriminations of the war. The poets and folk singers who did articulate the nation's worries and misgivings thrived.

One such is Martin Scorsese's *Taxi Driver* about a war who has been so disturbed by his Vietnam experience that he cannot sleep and becomes an all-night cabbie in New York. After a failed love affair he befriends a child prostitute and, incensed by her plight, kills her pimp. He is hailed by the press as a Vietnam veteran turned moral crusader, who has returned to clean up New York.

Other films also centre on the mental disorders caused by war trauma. In *Hombre* a young ex-soldier escapes from the mental surveillance of a veteran's hospital to look up his old soldier friends. His insanity is finally purged when he is told that one of his GI pals has been dead for many years.

In Robert Altman's *The Christians*, a Los Angeles policeman, whose mind was turned by the war, suffers a relapse and shoots dead an innocent boy placed in his custody. The hero of John Frankenheimer's *Black Sunday* is a vet, played by Bruce Dern, who had been brainwashed in a North Vietnamese POW camp. His homicidal anger at being court-martined on his return to the United States is harnessed by a terrorist group who use his explosive expertise for their own ends.

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tion. The only picture based upon the war which has reached Britain as yet, more, including Francis Ford Coppola's *Apocalypse Now*, are on the way. J. Furie's *The Days in Company*.

The flavour is more cynical and heroic than its Second World War counterparts, but Vietnam is squeezed into the conventional war picture. In *Apocalypse Now*, the war is seen through the eyes of a young captain in a cynical and cynical way. The war is seen through the eyes of a young captain in a cynical and cynical way.

The film, like much of the war picture, is a study of the mind. The war is seen through the eyes of a young captain in a cynical and cynical way. The war is seen through the eyes of a young captain in a cynical and cynical way.

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The Right to Useful Unemployment and its Professional Enemies, by Ivan Illich. Marion Boyars £3.95, 145 2628 2.

The Tavistock Institute recently completed a study of psychological responses to long-term unemployment. The results were, in some respects, fairly predictable. At first the unemployed tended to sustain the belief that their condition was temporary—indeed, in some cases, it was regarded as an unexpected "holiday" period. As attempts to obtain work proved increasingly abortive, depression and a sense of worthlessness became overwhelming for the unemployed until finally they reached a point at which they came to some sort of acceptance and adjustment to drab, featureless living.

The obvious and humanitarian response to such an investigation is the demand for a revised economy to implement the generally accepted right of human beings to reasonable opportunities for regular employment within a modern industrial society.

The importance—or the lunacy—

of Ivan Illich is that he firmly declines to accept the logic of this solution and the title of his book, *Illich*, eccentrically throws down the gauntlet of his challenge. To explain his position is not easy; in part this is probably because his little essay is exploratory in nature—a process of reconstruction and reevaluation that has yet to be fully completed.

Perhaps a useful starting point can be found in one of the reflections of the late Professor Cyril Joad. He noted that luxury resulted only to have reality when it was linked with privilege. To own a car when few others did and with roads relatively empty was a delight; to own a car when everyone else did was to join clogged motorways and brought hours of irritation and boredom. For Illich, industrial societies have turned human beings into chronic consumers, to the point at which the acquisition of material goods becomes not only addictive but limiting and often damaging. In some of our cities lifts and motor vehicles have, for example, all but deprived the inhabitants of the right and pleasure of walking. Man's contact with both his fellows and the natural world is persistently ruptured or ruined by the toxic qualities

that result on every level from the excessive stimulation of false needs and debilitating luxuries. Up to this point Illich will, of course, carry many with him. Quickly, however, he dispatches the liberalisers concerned and the conservationists. Hope that consumer protection, nature protection and "professionalism" will prove of any real effect is for him the great illusion of the age. Such pressure groups essentially accept the validity of the market intensive society and unwittingly perpetuate it. Environmentalists, for example, attempt to make factory management more responsible in the manufacturing process; they make no attempt to challenge the right of many factories to exist at all and so in the end merely confine themselves to tacking symptoms rather than treating the fundamental disease.

The major target for Illich's wrath is "professionalism". Under the mask of sustaining "standards" and creating "responsibility" and "caring", professionalism has evangelically gathered to itself great areas of human activity and having once established its "rights", excludes wherever possible all forms of lay intervention. This is seen most clearly in the

industrialization of so-called "back-

ward" communities, where the members are rapidly precluded from making their own houses, where women are denied the right to bear children except under strict medical supervision and where compulsory education destroys traditional cultural crafts replacing these with a crude literacy that leads directly to consumer addiction.

Illich is at his most inspired in his unrelenting attack on medicine. The relentless advertising of conditions of pathology, the demands for annual "check-ups" has led to valedictorian attitudes in which the individual who boasted his freedom from doctors has been replaced by the hypochondriac who boasts of all his medicine coverage. In the field of social work, the registration of those who may or may not "do good" grows apace, while defunctious and less professional of those who are considered in need of voluntary or compulsory "caring". All around Illich sees the Gadarene swine of endless consumption dragging humanity over the cliffs to the destruction of spontaneity and self-sufficiency. The horrifying message of modern society to its members is stark: consume or be consumed!

And so we return to the recent Tavistock Institute study. For Illich the unemployed must be helped to repossess their natural right to survive and flourish outside the debilitating systems of the contemporary market place. Man the passive consumer. Man programmed by education. Man the "victim of the disabling professions": Man the helpless, hapless child of "modernised poverty"—in essence Man who is less than man must be helped to reclaim his uniqueness and his creativity and his right to "useful unemployment".

Well, what does one make of Ivan Illich? Certainly his intellectual ancestry is clear: Rousseau, Tolstoy, Gandhi, and perhaps Jack London. Like all these social critics he has a brilliant gift for exploring weaknesses and emphasising half truths. Like his precursors he also reveals an inability to construct a convincing portrait of the alternative society he believes to be so essential for humanity's reasonable survival. Yet it ultimately his position is built upon a vision of human nature that is not quite believable, his value as a critic of contemporary society is immense. Ivan Illich at his worst is usually more stimulating than most social reformers at their best.

## Consume or be consumed

Geoffrey Parkinson on Ivan Illich

## An uneasy certitude

Max Morris on a Rosla project in Bristol

In and Out of School, The ROSLA Community Education Project. By Roger White and David Brockington. Routledge and Kegan Paul £4.50, 7100 8888 4, £2.25, 7100 8889 2.

I kept on wanting to like this book. Its authors are so sincere, so well intentioned, so convinced they are doing not just what is right but what is good that it seems childish to be critical. But I found their certitude and their virtue increasingly tiresome in our educational world, where there is so much uncertainty and, alas, so much vice.

Solutions to what to many of us seem to be almost intractable problems do not come as easily as they do to our zealot writers. After all, there are a few of us, not entirely unsuccessful, who every day of the week face in secondary schools actual and potential drop-outs, delinquents of all sorts, and some very nasty disruptive youngsters. As well as the great majority of pupils who just want to get on with their work.

*In and Out of School* is about a Rosla project in Bristol, well reported, where two enthusiasts provided an alternative form of education. It does not say school for it is, in a dirty word in the ideological circles from which the authors draw their inspiration) mainly part time, for fifth formers who were not getting on in their normal classes where they spent most of the week. If that were all the book was about it would take its unpretentious place among the various accounts of unconventional experiments which enhance the "backwards mainly dreary" but of educational writing.

But the authors are not content to tell us about their limited experience. They must generalise and proselytise. Here, we are urged, are the answers not only for the misfits but for all our pupils. For the schools have failed and are failing, our youngsters. Not all schools, of course, nor all teachers (another dirty word because it connotes the enemy—professionalism; many, we are told patronisingly and condescendingly, are doing a good job).

Although the authors disclaim the charge of being de-schoolers they are no less than that. Their ideas are nothing more than an

eclectic rehash of the de-school and de-school-as-trust models. Each, of course, from Messrs White and Brockington and their colleagues, have for decades been groping in the dark, fumbling with a curriculum dominated by the public schools. Rosla, we are told, in Boyson, has been a disappointment. One wonders, to whom; and who made this judgement based on what evidence peculiar to the current fifth forms? As far as I am aware, writing from the corner of the inner city, most youngsters have gained a great deal and our problem children are probably no more numerous than they were before Rosla. This view is backed up by what reputable evidence there is, though our authors prefer the current propaganda to the contrary.

It is a pity that the writers spell the account of their useful and interesting experiment in this way. They should know, too, that their assumption that something startlingly original is being done only reveals their ignorance of educational practice. Up and down the country numerous similar experiments are going on within the maintained system financed by the L.A.s, in "sanctuaries", for example, where teachers are trying to cope with difficult children in unconventional ways.

It is quite common (believe it or not) for teachers to talk to and not at children, to have coffee with them, to take them out on trips, camping, to organize Do-It-Yourself projects—even rebuilding bikes. And schools, given the resources are increasingly helping youngsters with sensible careers advice.

In *Out of School*, I fear, will not succeed in making the impact its authors obviously feel it should, where others, such as A. S. Neill with his eloquence, charisma and pedagogic brilliance have failed. Dealing with the number of difficult youngsters on a one to three teacher/learner ratio is not quite the same as educating what will always (even with falling rolls) be millions of pupils for life in our pedagogic, these children do not reject school, nor, as is ludicrously asserted, do the schools reject them. The authors ought to study the pastoral work of secondary schools where thousands of teachers day in and day out try to help pupils who are not coping or who do not want for whatever reason, to cope.

## Holy fathers

Peter Hebblethwaite

Clergy, Ministers and Priests. By Stewart Ranson, Alan Bryman and Bob Haines. Routledge and Kegan Paul £5.95, 7100 8713 6.

The sociology of religion is an honourable profession. The names of David Martin, Michael Hill and Susan Budd spring to mind. All are associated with the LSE. This work, admirable in intention, represents a contribution from what is called the "Asian school of sociology". It is difficult to form a precise idea of its method, except that it is based on rather casually filled in questionnaires which the authors then proceed to interpret without much feel for the total situation.

They nevertheless ply the reader with elaborate accounts of what they are up to. Here is an instance of their elaborate style: "Description searches for an adequate narrative, one which is complete in detail of event and meaning, but explanation seeks to illuminate the crucial axes upon which the narrative revolves, focusing upon the connection of fundamental events, why one occurrence happens before another". Nothing wrong with that.

The particular "occurrences" which they seek to illuminate are, however, rather bland: the priest and the minister differ, each of these "functionaries" standing for, respectively, the Church of England, the Roman Catholic church and the Methodist church. Not surprisingly the authors demonstrate that attitudes to ecumenism (which they call ecumenism) depend upon what the various clergymen think their Church is all about.

The whole approach is so thoroughly extrinsic, so neglectful of the actual experience of living in a given Church, that one is tempted to despair of sociological method as here practised. They imagine, for instance, that *The Clergy Review* is an "extremely influential" journal, though they appear to know of it only through *The Guardian*. They might have told us its circulation or usefully examined the reading habits of clergymen. How many Anglicans read *Times* or *Guardian*? How many Catholics read *Maurice Wilks*? How many Methodists read either?

## In and Out of School

The ROSLA Community Education Project

ROGER WHITE and DAVE BROCKINGTON

Describes a project based outside the school institution, but in cooperation with it, exploring methods and courses which might offer meaningful education for groups of fifth-form leavers. Though the project has been primarily concerned with developing a survival curriculum for the non-academic urban adolescent, the format of living, experiential teaching and learning it exemplified will be appropriate to the education of children of all ages and abilities. 0 7100 8888 4, £4.50 (cloth); 8889 2, £2.25 (paper).

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GUY CLAXTON

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## Settled in the past

Shirley Toulson

**The First Cities.** By Ruth Whitehouse. Phaidon Press £6.95, 7148 1678 7. £4.95, 7148 1724 4.

**The Vikings.** By Michael Hasloch Kirby. Phaidon Press £6.95, 7148 1718 X. £4.95, 1727 9.

The archaeologist and the prehistorian, Claude Kluckhohn, suggested that to rate as a civilized society (that is as a unit worthy of the name of city) a settlement must meet two of three requirements: a population of more than five thousand; a written language; a recognizable public and secular centre, either religious or secular. With these criteria in mind, Ruth Whitehouse has described the discovery of the cities of Sumeria and Mesopotamia in the nineteenth century, those of the Indus valley in the twenties and more briefly the more recent and current excavations in the Persian Gulf and Iran.

In each case, as far as it is possible to do so, she has used the knowledge which archaeology has uncovered to help her readers understand the priestly or royal bureaucracies by which these cities were governed, the trade on which they depended, the objects the citizens fashioned, and the materials they used to build their homes. Naturally, these imaginative reconstructions of past civilisations can be made more complete when, as in the case of Sumeria, there is a literature to draw on and we can know through recorded myth and fable how the people of the third millennium B.C. viewed their world and each other. Ruth Whitehouse even quotes Sumerian proverbs to

show how little the nature of the average citizen has changed: "You can have a king and you can have a lord, but the man to fear is the tax-collector."

Those tax-payers were, of course, still mainly farmers and one of the most interesting chapters in this book is the account of how nomadic communities gradually settled and formed the cities of the Mesopotamian alluvial plain. Ruth Whitehouse believes that the settlement came about as the techniques of irrigation were mastered and the people were enabled to grow enough food (including dates and other fruits), and to herd animals in sufficient numbers to sustain an expanding population.

The importance of good irrigation as a factor in the formation of cities is borne out in the case of Jericho, which flourished at least three millennia before the Mesopotamian cities, and which Miss Whitehouse declares was "occupied, though not absolutely continuously from the earliest settlement of the ninth or eighth millennium bc to the Bronze Age city, which the Bible tells us fell to Jericho". This is the lower case he is the device the author uses to indicate uncorrected radiocarbon dating, and it owed its existence to Elisha's Fountain, the abundant natural spring which fed an oasis in the Jordanian desert to the north of the Dead Sea.

Michael Hasloch Kirby's book on the Vikings is also about the founding of cities and settlements; although in this country, at least the Norsemen took over existing towns, many of which already had a substantial history behind

them. Mr Kirby begins his account with a study of the Danish impact on the city of York.

He is a writer who brings to history the same uninhibited zeal to make his subject stimulating to the general reader, which he uses to interpret material objects, to visitors to the Bowes Museum, at Durham, of which he is curator. Although his author carries his learning lightly this is by no means a superficial book; and paradoxically it gains in liveliness by being illustrated more by accounts from Norse sagas and by passages from contemporary documents, such as the Anglo-Saxon Chronicle, rather than by modern works of Viking scholarship.

Mr Kirby's main thesis is that the Viking nation had a Jekyll and Hyde character, which turned them into ruthless pirates when the urge for expansion was upon them, and into wise rulers and upholders of the domestic virtues once they had achieved their aims. He expounds this dichotomy in his account of the establishment of the Danes in Britain; in the less familiar story of the eastward movement of the Vikings into Russia; and in the clarity with which he describes their Scandinavian homeland.

This book can well serve as an introduction to the literature, beliefs and character of people who have so strongly influenced our own history. Fortunately like Miss Whitehouse, Mr Kirby is also skilled to proverbs and gives us this for an origin of our much-loved natural spring, which ever besides him the cheerful man book is to account snob how nomads fare better than the whiner?

## Unacceptable faces—detached views

Jessica Saraga

**Communism.** By Rex Winesbury. 211 89551 0.

**Capitalism.** By Peter Donaldson and Harold Pollins. 211 89552 3. Hamish Hamilton £4.50 each.

Capitalism has been called the exploitation of man by man—where Communism is the exact opposite. Like all epigrams, this leaves almost everything unsaid; it takes more than a sentence to explain two subjects which are political as well as economic, lives as well as theories, and which cause such deep divisions in the world today. These two *People and Politics* books, which now join *Fascism and Socialism*, attempt to fill in some of the gaps at a level suitable for fifth and sixth forms and above.

The series is written from a liberal/democratic standpoint—one which could be questioned—though to approach politics from outside the middle ground, to let each subject be treated by an apologist or antagonist, would perhaps be even more questionable. So the bias is the prevailing one of our country and our times, perhaps most noticeably in *Communism*: references to "dire warnings that the Indian sub-continent, or large parts of Africa, would go Communist" and "fears that the 1974 revolution in Portugal would end in a Communist take-over" leave little doubt about the author's feelings. In other ways the book is impressive. The explanation of Mar-

xist theory is lucid, and his analysis of the effects of the computer as well as of the effects of the First World War is also a useful 30 pages and, in the variant forms of more familiar lyrics to the literature, Butterworth is in the habit of transcribing songs, which he did direct from the voice, as it were, in the key of the original. Michael Davenny has adjusted the transcriptions, in default of precise evidence, to suit the adolescent voice (mezzo for girls, baritone for boys), and added a few chord indications.

George Butterworth, chiefly known as a composer of songs cut off in his prime on the battlefield during the First World War, was also a dedicated and clear collector of English folk songs and, in his own compositions before departing, he took the folk song transcriptions, in the habit of transcribing songs, which he did direct from the voice, as it were, in the key of the original. Michael Davenny has adjusted the transcriptions, in default of precise evidence, to suit the adolescent voice (mezzo for girls, baritone for boys), and added a few chord indications.

There are a number of basic problems in music publishing. The first is what to publish, to attract buyers and keep costs down. A.M. have done well to concentrate on tuba and bass trombone: there is a real hole in the market, certainly for good new music, and since the works are for solo, production is less expensive than for piano or ensemble. Scores are printed clearly from serviceable manuscript, and sensibly packaged in printed manila envelopes. Cress-

## Voice of the people

Robin Maconie

**The Ploughboy's Glory:** a selection of variations on folk songs collected by George Butterworth. Edited by Michael Davenny. Phaidon Press £2.20, postage 18p.

**The Song of the Ploughboy:** a selection of variations on folk songs collected by George Butterworth. Edited by Michael Davenny. Phaidon Press £2.20, postage 18p.

For the young composer, lack of publication of his music is often the last and greatest obstacle to recognition. For the young tuba player, lack of music to play is also a professional liability. The enterprising Birmingham Arts Lab, whose directors are Melvyn Poore and Jan Steele, have taken a laudable initiative in beginning a programme of publishing new works by young British composers.

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## Ways of progress?

Rosemary O'Day

**Eyewitness History Books.** Tutankhamun's Egypt. By Penelope Davies and Philip Davies. The Story of Medicine. By Kathy and Mike Eldon. Tom-Tom to Television. By Kathy and Mike Eldon. Wayland £2.95 each.

Here are three additions to Wayland's highly recommended "Eyewitness" series—and, as usual, the industrial history, it is an excellent history, a relief to turn to a more general history, broadens into a general history of the world, and also includes a section on the development of the modern world, from Napoleon and the Rosetta Stone to Howard Carter and Tutankhamun's tomb. This volume is very up to date, and the "eyewitness" rationale, which is a very good one, is used to good effect. The book is divided into short items within each chapter: beds; toys; harpoons; salt; pepper and spices; domestic animals; hunting; farming; transport and insurance. Each item has its own picture. Possibly one of the criteria for

## Kindling the divine spark of creative fire

Hermann Peschmann

**The Sovereign Ghost: Studies in Imagination.** By Denis Donoghue. Faber £6.75, 571 10563 7.

The Sovereign Ghost—Wallace Stevens's phrase—is the imagination itself denied. His revindication of it, and the range of his researches, in English, Irish, American and French literature, revealing the imagination at work, are immensely impressive. Professor Donoghue's attempts to show that even linguists and Structuralists accept the common basis of traditional theories of the imagination seem, however, misguided. Just as the equally laudable efforts to achieve ecumenism among the churches face the constant danger of differing fundamental beliefs being obscured or coded, so here the whitened-down "area of acceptability" will finally satisfy no one—and the traditional concept of the imagination is too precious a witness

including a topic was the existence of a suitable illustration; no matter, for the artist and producer photographs, reproductions and copied drawings certainly contribute to the book's success. It is a pleasure to leaf through these pages, not least for the study of Egyptian art, which could well be a starting point for further work; children rarely fail to enjoy adopting and adapting the characteristic Egyptian styles for themselves.

The illustrations in *The Story of Medicine* and *Tom-Tom to Television* are necessarily less homogeneous, but they are again a major feature and similarly well chosen. They are contemporary wherever possible, and remarkably apt and expressive—so much so indeed that some of the early woodcuts of dissection and surgery in *The Story of Medicine* are too gruesome to be recommended to the squeamish.

In *The Story of Medicine* progress is described from belief in the healing powers of magic, through the Middle Ages when Galen's theory of the four humours and the church's stultifying view of disease as God's punishment held unchallenged sway,

to the development of a scientific approach to medicine, which had its beginnings in the Renaissance. Anaesthetics, immunisation and antibiotics, all covered, though apart from penicillin, new drugs are given surprisingly little mention. We and with the computerized tomographic scanner, which can produce an X-ray picture of a specified cross-section of any part of the body.

*Tom-Tom to Television's* subject is communication, and every possible aspect of it seems to be described—from developments in writing, printing and braille, through sound recording, wireless, telephone, facsimile transmission and bouncing signals off satellites. Again, progress is brought right up to date by the description of the technological advances of the last five years.

Clarity and simplicity are the hallmarks of all the texts, and there are glossaries, date tables and suggestions for further reading at the end. Though easily understandable, the style is adult and free from any suggestion of patronization, so they have a wide appeal.

To the essential dignity of man to be so compromised. The empirical analogue seems, not unfitting for a book which proclaims the imagination as "a form of man's spirituality", and whose author affirms, "I cannot believe the imagination is other than divine in its origin". Furthermore, these efforts to demonstrate a common ground with the opponents of the traditional views involve Professor Donoghue in using a vocabulary normally familiar only to linguistic and Structuralist specialists. How are the rest of us expected to take in our stride words and phrases like "hermeneutics", "phonological interpretations of consciousness", "the metaphysics of reason", "transcendental grammar", "semiotics", and "hermeneutic"? It is a great pity thus to limit the range of appeal of so valuable a book—which, incidentally, cries out for an index.

## Talking through

Roy Blatchford

**New English First. Book One.** By Rhodri Jones. Heinemann £1.50, 435 10494 2.

When the single volume *A New English Course* appeared in 1975, it courted well deserved praise as some of the best material gathered for a course book. Published in conjunction with the National Extension College and providing for individual study or classroom use, Rhodri Jones devised 24 units, each of which had a basic format of Reading and Understanding, Writing, Language, Vocabulary and Spelling sections. What was new, and in the event proved ideal for students at home and in evening classes, was the open-ended presentation and "talking through" of many of the tasks, a design which the author has skilfully adapted for book one of what eventually will be a complete secondary course.

But his approach, which encourages discussion and reflective techniques, uses none of its emphasis on basic skills and grammar; the preface to pupils is hard evidence of current thoughts about English teaching: "It is not meant to be easy. If you wish to improve your ability in English, you will have to work hard. There is no getting away from that."

There are nine thematic units—Monsters, Christmas, Witches and Warlocks, Storms and Floods among them—which include poems, extracts from adult fiction, children's literature and, most interestingly, from pupils writing about themselves. The questions attached to many of the prose passages are thoughtfully compiled, challenging, aiming to elicit a range of written and oral responses.

The language, vocabulary and spelling sections (complemented by three consolidation sections which concentrate on grammar explored in the preceding units) move constructively through the book, and are clearly intended as starting points which the teacher must then develop. In the unit on Holidays, for example, Dylan Thomas, Philip Pearce and Jerome K. Jerome rub margins with several lively, plain-speaking accounts of holidays from 11-year-olds. Exercises on alliteration and collective nouns arise naturally out of the Welsh poet's "Holiday Memory", with extended work on sentence formation and homonyms.

The typography is consistently clear; pages are double-columned, eye-catching photographs and line drawings relate well to the text, print is sensibly sized and different type-faces are helpfully associated with various tasks. What brought success to the author's original volume for O level students will further be welcomed by teachers in search of a comprehensive and competently structured course for most abilities which will last them into the eighties.

particularly well his flair for a broad view combined with simplicity of writing for the common man. It is now a handy reference rather than a text, and the reviser, Audrey Clark, has unusually and skilfully lost none of the original quality in bringing it up to date.

**The World:** a general geography. By Sir Dudley Stamp. Longman £4.00, 582 33055 6.

The appearance of the nineteenth edition of Stamp's *The World* is something of an event. This has probably sold more copies than any other geography book, and evidences

B. S. Robertson

## Authors in Their Age

General Editors Anthony Adams &amp; Esmor Jones

*Authors in Their Age* places the major figures in English literature against the background of their times. The series is intended for students preparing for "A" level English and other examinations in the post-16 age-group, since it concentrates on those authors and special periods most commonly set for these examinations. First-year undergraduates will also find many of the texts useful and relevant.

Chaucer	0 216 90184 7	Imp £2.20
	0 216 90182 8	cased £3.50 net
Milton	0 216 90363 X	Imp £1.95
	0 216 90370 X	cased £3.50 net
The Age of Keats and Shelley	0 216 90381 X	Imp £2.95
The Age of the Metaphysicals	0 216 90583 X	Imp £2.75

## Options for English

General Editor David Meazies

It is often difficult to assemble and suitably structure material for use with classes in the middle-school range, i.e. 11 to 14 years. Options for English attempts to meet this need as it is a series of resource packs, offering material on a particular theme, for a class of up to thirty or just such an age group.

The Viking File	0 216 90484 6	£6.50
Manxman File	0 216 90380 5	£5.00
The Pied Piper File	0 216 90391 5	£7.25
A Ray Bradbury File	0 216 90483 6	£6.75

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## Pepper and spice

Catherine Basham on economic history

**The Development of the Economies of Continental Europe, 1850-1914.** By A. Milward and S. B. Saul. Allen and Unwin £12.50, 0 33027 7. £4.95, 0 33027 8.

**Merchants and Merchandise.** By J. N. Ball. Croom Helm £7.95, 85664 493 3.

Milward and Saul's book follows their earlier *The Economic Development of Continental Europe, 1780-1870*, again dealing with the whole continent, and doing so from a continental rather than a British perspective. It must be the most comprehensive account in English of the economic history of the Continent for this period; at the same time it provides a useful data for examining theories of economic growth and development.

The authors begin with a description of the economic growth of Germany and France from 1870; this is followed by an examination of the development of the smaller Western European economies, all of course greatly influenced by the big ones, but with very differing economic histories. Italy's spectacular "break-

through" after 1896 is discussed in considerable detail, demonstrating what a very wide range of factors (not all economic) combined in an opportune time to effect a dramatic change in unpropitious circumstances. This example helps to explain the lack of such a breakthrough in Spain and other countries.

In some cases a more advanced neighbour made growth difficult: for example German chemical firms got cheap sulphuric acid as a by-product of their metallurgy industry, while Austria-Hungary made it from expensive imported pyrites; this sort of thing helped to prevent Austria-Hungary from making the transition to domestic processing of her own raw materials.

Economic development in Russia and in south-eastern Europe is described, pointing to the terrible consequences of the lack of awareness that the economic fate of the whole of Europe hung together.

The authors' conclusion is that there has been too close an identification in European history between industrialization, modernization and

## Place and time past

**A New Historical Geography of England, 1600-1900.** Edited by H. C. Darby. Cambridge University Press, paperback £3.95, 0 521 2944 5.

**A New Historical Geography of England after 1600.** Edited by H. C. Darby. Cambridge University Press, paperback £5.50, 0 521 2944 5.

Professor Darby's work on the historical geography of England has become known to many generations of students since it was first published in 1956. When an extensively revised volume appeared in 1973, it was a landmark. In the April 1978 issue of *Geography*, the first of the new series, it will rank as one of the most important books of the decade.

He also felt that since every student should have a copy, the publishers should produce it in paperback at about a quarter of the price. This they have now done, following minor corrections and an introduction explaining the book's rationale, but at a price of £4.95.

However, its appearance in two volumes does increase its flexibility and reduces costs considerably.

The first volume deals with the arrival of the Anglo-Saxons and covers the medieval and Tudor periods, while the second and larger volume covers the period after 1600, from the agricultural and industrial revolutions up to the end of the nineteenth century.

Using a well-tried methodology which combines both horizontal and vertical approaches to space and

time, Professor Darby's synthesis of research results is often very different from the often very current geographical survey. In addition, it is a completely subjective paperback volume which, by all who profess to be geographers, will benefit from a new, more objective perspective so well created by the author's "vision".

In view of the age of the book, the new beginning of the series is a welcome one. It is part of the strength of this series that it is not a "textbook" in the traditional sense, but a "reference" volume. It is a volume which, by its very nature, will be used as a reference work, and it is a volume which, by its very nature, will be used as a reference work, and it is a volume which, by its very nature, will be used as a reference work.



## Flexibility matters

JOHN MAY reviews new science materials produced by the ILEA for mixed ability classes

**Insight to Science.** By Dennis Marshall, David Gilman, Lesley Halse, Michael Thompson, Jacqueline Watson. Published for the Inner London Education Authority by Addison-Wesley Publishers Ltd, West End House, 11 Hill Place, London W1R 2LR.

**Water Unit:** 80 cards, Technical Guide, 5 background booklets £20  
**Materials Unit:** 80 cards, Technical Guide, 5 background booklets £20

*Insight to Science* is an integrated science course designed for children of a wide range of abilities in the 11-13 age range. It has been written by a curriculum development team from the Inner London Education Authority and the material has been extensively tried out in the ILEA area.

The two-year course consists of 12 units, each designed to provide about half a term's work. The units are: *Water; Materials; Invertebrates; Measurement; Colour and Light; Sorting Things Out; Environment; Sound; Electricity and Magnetism; Growth and Development; Forces; Air and Heat.* The first five are published in this issue, the remaining seven are scheduled for publication in the autumn.

*Insight to Science* has been written to provide flexibility at two levels. First the 12 units can be assembled in a variety of orders and it would also be possible to use part of a unit and to return to it at a later stage. The materials are intended to be a complete course but some of the units, or parts of units, could be used in conjunction with other courses such as Nuffield Combined Science.

The second level of flexibility is within the units themselves. The materials are designed for different levels of ability within a class. The central feature of each unit is the workcards. These are A4 in size, varnished and printed in two colours. They provide information, give instructions for activities, suggest ways of recording results and provide summaries to be copied into the pupils' exercise books.

There are three levels of difficulty. One star cards are at a relatively simple conceptual level; have many illustrations and are written in a relatively simple language. Two and three star cards are at a more difficult conceptual level and contain more open-ended investigations.

Cards are grouped as "core" and "extension". The core consists of all the one star cards and some of the two star cards. The extension includes some two star cards and all the three star cards. It is expected that all pupils will follow the core cards.

The extension cards are meant for the more able and faster working pupils. The unit on Materials, for example, contains 16 core and eight extension cards. The star rating of individual cards is not given on the cards but is indicated for the teacher in the technical guide. The cards are marked as "Core" and "Extension". The workcards are well designed, attractively laid out with large clear type. Illustrations are large and clear and the cards have a pleasantly uncluttered appearance.

All but three of the units, have 16-page background readers associated with them, which provide information to help pupils answer some of the questions on the workcards. They should go some way to answering the requests from teachers for relevant reading material. Five copies of the booklet are provided with each unit and further copies can be obtained from the publishers.

In the units on Colour and Environment the booklets are replaced by a colour filmstrip and in Sound by a cassette tape.

The third component of each unit is the technical guide. This is to help teachers with the preparation and use of the material. The guide lists the major objectives of the course.

The technical guide also contains

a number of sheets designed to be master copies for duplication, are

The two units on *Water* and *Materials* are divided into three sections: "What is it made from?", "Metals", "Non-Metals". Activities in this unit include testing materials to see if they float or sink, conduct electricity and heat, are attracted by magnets, or burn. There are worksheets on extracting metals from their ores; wood; making and testing glue; and making plastics.

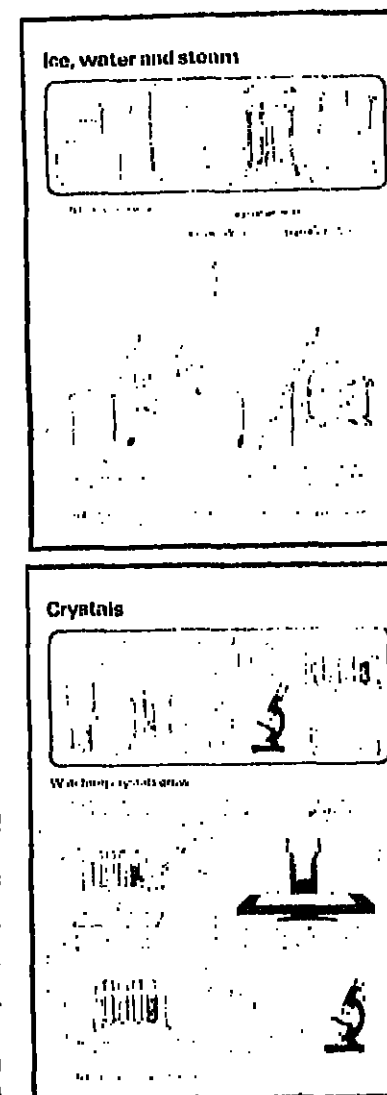
Extension cards include conduction and expansion; the corrosion of metals; competition between the metals for oxygen; and tests on plastics. This work can be supplemented by worksheets produced from the master in the technical guide on the properties of materials and plastics in the home.

The extra activities provided in the technical guide also include some cut out card games for the pupils. There are six assessment worksheets in the guide which can be duplicated and given to the pupils as a test.

The *Water* unit is divided into four sections: the properties of water; and solutions; the purity of water; water and life. The cards cover a variety of topics, including testing for water; ice, water and steam; dissolving in water; producing distilled water; from plants and water. Extension cards include work on water pressure; solubility; distillation; how plants lose water.

This course represents a real attempt to provide material with the maximum amount of flexibility. But herein lies one of its major problems. The technical guide states that "the advantage of the workcard system is that it may be used with almost any method of class organization".

During trials of the material, it was found that the commonest system of organization was with children working in small groups, but the material has also been used with children working individually. A "stations" or "circus" approach is recommended. The unit is divided into sections to help the organization of the material but little mention is made of how the organization of the work using the cards is not as simple as suggested



Two worksheets from the package on "Water".

A stations approach assumes that the order in which pupils do the work doesn't matter. To some extent this is true. But, for example, it makes sense for the Materials card "What is it made from?" to be done before "Metals and Non-metals".

In some cases an order is assumed. For example, "Testing Glues" in Card 21 of the Materials unit assumes that pupils have made the glue as part of the work on Card 20. This would imply that the organization of the work using the cards is not as simple as suggested

in the technical guide. However, contains a list of activities, a suggested sequence of material and the relationship between material and the activities.

As with any new course, it is likely that the organization around a more extensive guide could help to solve some of these problems, but it is a pity that teachers are not given a course which has been tried out by experienced teachers.

Production of assessment material is a skilled task. The assessment material is of the less satisfactory type of course. It would have been easier if the objectives were written in terms of what the pupils should be able to do, rather than in terms of what the teacher should do. A number of the objectives are of doubtful value, for example, in the section on water pressure, question 2 asks:

Choose the best answer to the following:  
1. Water pressure is:  
(a) the weight of the water  
(b) the depth of the water  
(c) the push of the water  
(d) the volume of the water

Part of the ambiguity question arises from the word "weight". It is "mass". Weight is a force. It is the push, per unit area, of the water. It is "pressure". It is "weight" is "pressure".

A deep sea diver can breathe underwater because of:  
(a) protect him from the water  
(b) keep him warm  
(c) counteract the pressure  
(d) gives him greater resistance

"Insight to Science" is a course that puts great emphasis on the pupils' learning to solve problems. The idea of science is to solve problems. The idea of science is to solve problems. The idea of science is to solve problems.

## Ways of communicating

T. O'Toole

Does a traditional school magazine have a place in a large comprehensive? Is it an annual publication containing a summary of Oxbridge scholarships, sports results, an introduction by the headmaster and a couple of intense poems, the best one for a sprawling split-site school?

My answer is no. Given a school roll of 1,700, a staff of 100, 3,400 parents, 60 other staff and a large catchment area containing nine primary schools, the need is for a more frequent and topical readable, informative yet amusing publication, with something for all

which can give those 4,000 people some sense of community.

I am thinking of a newspaper which would have a different objective from the traditional magazine. The content would be varied, and vary from one issue to another, and the paper should contain jokes and gossip as well as PTA news, on school trips, and, very importantly, items of information about the running of the school—for example, new subjects/developments on the timetable, staff changes (and staff babies) etc.

It would avoid blandness, and merely reporting the establishment viewpoint. Reports about vandalism and theft would have their place, even though in the short term they might harm the school's reputation. Such honesty would lead to the paper being bought and read with greater interest and commitment.

However it would have also a responsibility to avoid destructive criticism and hurting any individual while guarding against any minority—for example the sixth form—or one particular hobby gaining too much control of the content. Finally, if the newspaper was to appear four or more times a year, it could not afford to lose a large sum each issue.

We are producing the seventh edition of *Insight*, our school newspaper. Contributions have been established in each of the three buildings, although articles from the English department or English room during lunch and break times.

If individuals, staff or student, are named in an article, then the writer has to gain their permission before the article is printed. Refusals are surprisingly few. Discussions among the editorial committee about the content and layout of each issue are lengthy and lively.

Usually printing is outside the scope of the school's reprographic department and therefore approximately £290 has to be found for each issue for 1,600 copies of 40-44 pages; an annual bill of nearly £1,200.

Obviously advertising has to be gained, preferably well in advance. Some advertisers will contract for a series over a year. This raises about £200 per issue, and leaves £90 to be covered by sales of £75 (1,500 by 5p) and small subsidies from the English department or grants from the PTA.

To avoid unpredictable losses sales have to be assured before the printer starts his run, so each year group orders an exact number. Currently 80 per cent of the school buys a copy voluntarily. Eventually it should be possible to expand sales and interest more widely in the neighbourhood. Already our feeder primary schools are contributing and purchasing enthusiastically.

A great deal has to be done in lunch hours, and after school; but newspaper work can find a place on the timetable. Production of the newspaper can provide a very practical option within general studies. It is especially valuable for any sixth former interested in journalism, or design, since the layout of most of the advertisements and pages is done by the students themselves, using Letraset and illustrations.

Inevitably the production of four 40-page issues each year leads to a rush; but it is very worth while. A good school newspaper can communicate much more effectively than many assemblies or letters home.

T. O'Toole is head of English, Carlton-le-Willows School, Nottingham.

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## Building their own world

Katrina Noble  
Janice Honeyman

Twenty-five children have been invited to the Log Cabins at Inter-Action, Kentish Town. They are just by a friendly young woman, Charley, who leads them into the mysterious cabins.

It is dark. By torchlight we see bare floors and bare walls, but for a series of prohibitive signs: "Keep Off The Grass", "Beware", "Stop, none of that".

A searchlight and a blinding strobe flash on to the children. "Keep in line. Quick march! You may not say yes, you may not say no. Now answer my questions. These are the fearful words of Mavis Scourage, absurd mixture of Mavis Ubu and the Queen of Hearts. She is the main character in 'Give Them An Inch', an environmental project for children aged seven to 11.

Tired of fleeing visits to adventure playgrounds and community centres, where a spontaneous but somewhat transitory involvement with the children is achieved, we attempted to extend an experience by combining dramatic display, discussion, games and crafts, and at the same time, stimulating and challenging the group of children. Our aim was to make them think, solve problems together and work through ideas, sometimes by practically using a game for this purpose, once a week for six weeks.

In week one, the absurd authority figure so provokes the children that it becomes necessary for them to create an alternative. The sympathetic Charley leads them through a series of games, intended to undermine and confuse Mavis Scourage, finally tricking her with a language code she cannot follow. She is forced to admit defeat and gives the children the chance to prove they have a preferable set up.

Mavis's rules are torn down. New, positive rules are devised by the children and Charley proposes a new system whereby they express their own needs and desires, make decisions and create an environment in which they are comfortable and confident, all important aims in the project.

Soon the walls are covered with colourful signs: "Everything is and strong character, born for the work with these personal gifts, pragmatic, never too involved, always in control of themselves. These are the long-time survivors, the ones who can always cope, of lasting value to the children, the ones whom the system depends on. Finally, there are some, often well qualified, seeking to put their ability and purpose to the greatest possible use, who find their way into the work, out of conviction. These are people commonly dismissed as idealists, perhaps also social misfits. It is of one such man, who found his personal frontier, that I wish to write.

He was not a strong or happy man. There was always something wrong in the way he held his convictions, inflexibly, as if afraid they would be stolen from him. But he was a fine man, vital, charming, musical, outgoing, popular, who he showed a forceful, uncompromising drive himself and driving others, when caught up in his work. One of those people who are excellent teachers.

He was taken on at the assessment centre where I worked as the teacher for a secure unit that was to be opened. I was to work in the new unit as well, for three months, before I opted out in quiet disgust. It was just another way of abdi-

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## For friends of the earth

William Cleghorn

**Environmental Economics.** By Alan Cottrell.  
Edward Arnold £1.95. 7131 2669 8.  
**Energy Resources.** By J. T. McMillan, R. Morgan and R. B. Murray.  
Edward Arnold £3.50. 7131 2665 2.  
**Treatment of Industrial Effluents.** Edited by A. G. Calley, C. F. Forster and D. A. Stafford.  
Hodder & Stoughton £7.95. 340 19799 4.

Prices are a handy substitute for ideas, and economics has much to offer the increasing number of environmentalists, young and not so young, who seek a solid foundation on which to base their concern for the welfare of the living world. Economics, though, is helpless to answer questions of allocation of the earth's scarce resources without accurate estimates of present and future stocks and flows of energy and materials.

Complications creep or rather cascade in. Questions of geology and physics turn into problems of chemical engineering and metallurgy, which in turn dissolve into economics and accounting or twist themselves into conundrums of political theory, law, ethics, or, with an eschatological wriggle, into theology. The writing of introductions to this seamless fabric of concern interwoven with fact requires clear thinking and relentless control of the manifold strands of argument. It doesn't always get it.

**Environmental Economics** suffers from no such shortcoming. The first in Edward Arnold's new "Resource and Environmental Sciences" series, it is an appropriate and encouraging addition to

the small number of texts that are really suitable for sixth form and degree students tackling environmental studies. It is short, clear, scientifically and economically accurate, remarkably comprehensive, and cheap. As it happens, the author is a distinguished scientist rather than an economist, which may account for the short shrift given to economic dogma of all colours. Attention is concentrated on the great physical and biological systems that sustain life on earth, on the pressure that humanity imposes on these systems by its runaway exploitation of resources, and on the likely effects, measured in the simplest economic terms, of such continued exploitation on the future welfare of humanity and its surroundings.

This little book will be of value to students of the physical and biological sciences, and will also reward students of economics and of any and every subject that bears on the use of material resources, scarce or abundant, by people everywhere.

**Energy Resources** is also reasonably priced. It gives an elementary account of the availability and uses of petroleum, other fossil fuels, nuclear energy, hydroelectricity and the many alternative energy sources currently being canvassed for the day when growing scarcity and rising prices start to turn off the taps in Shetland, Saudi Arabia and elsewhere. The authors lapse intermittently into demagogic futurism ("what we really face is a chronic situation"), lecture-room buffoonery ("by comparison with water power, wind power is a mere drop in the ocean") and some startling unevenness of treatment ("alternator" is carefully explained; "magneto hydrodynamics" isn't; there is no glossary). With probably unconscious chauvinism, they neglect to inform the

reader that for very large nuclear power in poor countries is a very real possibility—and it is likely to remain a very long time, whereas the comfort of the nuclear fusion in the CERN in Geneva, but there is no good possibility, particularly of oil fuel utilisation, particularly of the forgiveness the authors for a quickly but telling observation: "We could use our refrigeration heat pumps simply by fitting to a window frame with a side 'A'Ah, we laugh now."

Students of the technical side, pollution control will be pleased, aided by a new generation, expertly written and complete. **Industrial Effluents** is a fine example. This is a book for the year or graduate biology engineer, with 21 chapters on specialists on scientific, and legal aspects of waste pollution. To the working scientist, this well produced, highly informative volume, with numerous references to a research work, offers an apt review of a many-sided set of technical problems. For the mentally conscious but often employed, a look at these problems will bear out the words of a passionate early environmentalist, William Blake: "He who sells good to another must do it minute particulars".

These three books are all of a high standard, and are of use to the slow growth of the environmental movement, and to the investigation and study of environmental studies, where there was once little more than ignorance, indifference, and despair. Gradually, the flames of our planet's resources are becoming a matter of rather than radical or exceptional. Space ship earth has no receivers in.

## Bed rock

Chris Wilson

**Landscape Processes: An Introduction to Geomorphology.** By Darrell and Valerie Weyman.  
Allen and Unwin £2.50. 04 551 026 1.

The publishers of *Landscape Processes* must be pretty confident about the potential sales of this book, for they have been promoting it by distributing free copies to teachers. There are plenty of introductory geomorphology books available many of which are lavishly American texts. This book is modest in size (95 pages), and matches transatlantic productions in having plenty of clear two-colour diagrams.

The authors are both school teachers, though one has a research background too. Unlike many academics, they have had the good sense to adopt a selective approach; they emphasize processes rather than describing many examples of landforms; special attention is given to the landscapes of humid environments because that is what a level pupils will actually see. This selectivity even extends to the photos, for the authors deliberately avoid including material that pupils will have ready access to, such as standard photographs.

*Landscape Processes* contains chapters on humid, arid and semi-arid glacial and coastal landscapes, and has a final one dealing with landscapes of the past, which is largely an extension of the glacial chapter. Volcanic landforms and those produced by earth movements are omitted on the grounds that they are well covered by other books. Even with this selective approach, the authors' text is quite dense, with little room for any more than fairly concise definitions of terms and concepts. It is produced, to some, this will be seen as a major fault, but others may feel that it is a useful, well-illustrated little book that has the merit of leaving the teacher something to do.

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## Nothing like the sun

P. A. Smithson on climate

**Climate: Present, Past and Future, Vol. 2: Climatic History and the Future.** By H. H. Lamb.  
Methuen £38.00. 416 11540 3.  
**The Climatic Threat.** By J. Gribbin.  
Fontana £1.00. 634832 7.

In recent years, the number of books published about climate has increased dramatically. We could use our refrigeration heat pumps simply by fitting to a window frame with a side 'A'Ah, we laugh now."

The two books reviewed here are both concerned with climatic changes, but otherwise are very different. *The Climatic Threat*, according to its author, was written in order to provide information about how and why the climate is changing for as wide an audience as possible, and to indicate the best available forecasts of the changes in climate we can expect to experience in the next few years and decades.

He does admit, however, that "this is not a cool appraisal of climate change with a balanced view of all theories, but more a subjective interpretation of the atmospheric evidence whereby changes in the sun may be responsible for most of the climatic variations observed".

As an atmospheric scientist and with his journalistic experience, Gribbin achieves his aim most successfully. He has provided an interesting, up to date and readable account of recent variations of climate from the Ice Ages to the present day and examines possible causes sequentially, first, considering the

atmospheric composition and structure, then an intriguing chapter on the sun as a variable star contrasting with earlier views about its stability and assessing to what extent these flickers may be cyclic and predictable. The Milankovitch Model is examined and the importance of the orbital variations of the Earth is emphasized as a long period factor in influencing the distribution of solar energy at the surface.

The book concludes by looking at human influences on the atmosphere such as the addition of carbon dioxide, heat and pollution and how these might modify some of the natural variations.

Overall Gribbin provides a plausible case for the role of the sun in influencing our climate though he does use the term "climatic change" loosely to include short duration runs of extreme events which may have a dramatic short term effect (1975/76) but are not strictly significant changes of climate in a statistical sense.

*Climate: Present, Past and Future, Volume 2* is entirely different in approach. In this, Professor Lamb, who has been working on the theme of climatic change and history for many years, has set out a reference work on climatic history and the future. *Fundamentals and Climate Now*.

He has achieved his by providing a comprehensive review of the literature of the subject (87 pages of references), extensive appendices of supplementary tables and figures (101 pages) to support the text and copious footnotes. A traditional approach in the subject is followed, commencing with an examination

of the evidence available to determine former climates—meteorological, biological, archaeological and geological—together with a useful section on dating methods, a subject of vital importance in Quaternary history.

The next five chapters cover climatic history deduced from the lines of evidence already examined, being rather brief on early geological history and concentrating on the Quaternary Ice Ages and the subsequent period. This represents the core of the book providing an authoritative description of events and outlining the many theories proposed to account for the variations. It will undoubtedly stand as the leading work on this subject for some years to come.

The final section is on the future—perhaps the most difficult part to write because of the even greater divergences of views on this subject. In some respects it is a little disappointing after the achievements of the previous sections, discussing in only 50 pages, man-made climatic changes and different approaches to forecasting the future. With this, there is an interesting and critical appendix on forecasts.

The two books while being different in style, are complementary. The main value of Lamb's book is as a reference work on climatic history, summarizing information from a wide range of disciplines and providing an extensive up-to-date bibliography. Gribbin's book is at its best when dealing with recent theories of the solar control of our climate and possible future developments. Together they give us two useful texts but at £38 I fear the former will have a smaller readership than it deserves.

## Fossil and fossil hunter

Chris Wilson

**Rocks.** By David Dimbleby.  
Collins £2.50. 00 21944 X.  
**Rocks and Man.** By Myra Shackley.  
Allen and Unwin £4.95. 04 913018 6.

As our present civilization is dependent on rocks as providers of raw materials and energy, and because geology is a subject that becomes a life long leisure pursuit for many, the titles of these books suggest that they might have a wide potential readership. Both books attempt to summarize their subjects into around 150 pages.

*Rocks* turns out to be a condensed introductory geology text, leaving out a discussion of landscapes. In 20 pages, the first chapter covers the solar system, geological time, matter, gases, liquids and solids, minerals and crystals. Within this subject framework, the author introduces, rather than explains, concepts such as X-ray diffraction patterns, the seven crystal systems, unit cells, refraction, atoms, electrons, protons, neutrons, isotopes, ions and bonding.

Chapter two "The essential few: rock forming minerals" catalogues the properties of the 10 commonest minerals found in the Earth's surface rocks. Chapter three "All

bright and shining: the metallic minerals" summarizes in 15 pages the features of 20 ores and outlines seven different processes by which metal ores are formed.

The remaining six chapters are given similar titles, and describe sedimentary rocks, evaporates, metamorphic rocks, fossils (their uses in any chapter, their features in another) ending with a summary of the geological cycle. This last chapter surprisingly avoids relating the rock cycle to plate tectonics, which, even at a time when the new global geology is in danger of being over-popularized, is a strategy hard to understand.

*Rocks* seems to be halfway between a dictionary and true teaching text for beginners. There are numerous rather small line drawings and some good black and white photos (not integrated well with the text), but these cannot compare with the similar priced Hamlyn *Guide to Minerals, Rocks and Fossils*.

In her introduction to *Rocks and Man*, Myra Shackley stated that "we can consider both man in rocks and man with rocks... Man progresses from being a fossil to studying his own fossilized ancestors. In talking about the relationship between rocks and man in prehistoric time we are talking principally about the exploitation

of mineral resources and the ways in which this exploitation is documented in the archaeological record".

This provides an accurate summary of the scope of the book, whose chapters cover earth history (trying to do in 24 pages what *Rocks* does in 150), tools, weapons and artefacts, bricks and mortar, building stone, cosmetics, jewelry, ornaments, medicine and technology, and finally ritual religion and magic. This is a fascinating list of topics, but brevity and lack of illustrations (there are only 35) makes for difficult if interesting reading. The text bristles with mineral and rock names with the briefest of descriptions, and without maps, geographic names of times past are difficult to follow. The style is a little rambling, jumping from place to place and material to material without much signposting to guide the reader.

I found that the most interesting chapter was that on "Building Stone", describing the construction of a variety of edifices, including Stonehenge and the Pyramids. And it was illuminating to read that fashion probably played a part in the choice of materials for making stone tools and other artefacts, and that because of this, archaeologists' cultural correlations might be more suspect than was once thought.

Apart from these difficulties, the book can be recommended as a source of several interesting and carefully researched projects. Typical examples are those concerned with the effects of rock overhangs on the summer temperatures of buildings and the investigation of different methods of heat storage. Users in this country may be attracted by the author's offer to correspond with anyone who tries the experiments and wishes to discuss their results. It would certainly be instructive to compare results in this country with those obtained from experiments in America.

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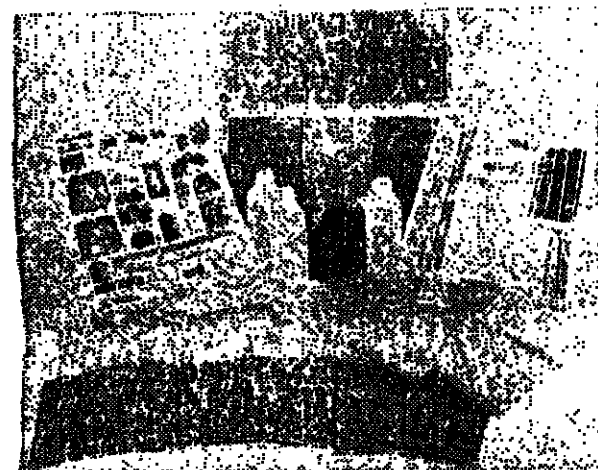
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covers: a lion family, a charging elephant, and a pensive gorilla.

Each book explains the social structure, the hierarchy within groups and the details of maternal care that individual species have evolved to make their own life-style.

Terry Riley's illustrations, some black and white and some in colour, add immensely to the value of the texts. In addition they widen the range of potential "readers" because the pictures will interest even children too young to read. There is no trace of condescension, so younger pupils in secondary schools should readily accept the text. Conversely, although quite a big vocabulary and a good reading age are demanded, juniors will be able to understand the clear, objective writing.

There is no anthropomorphism or phoney moral judgments on behaviour, attitudes found all too often in animal books for children. These animals are observed as creatures, each living in a particular environment and evolving its own social structure and survival techniques.

Although there are no index or contents lists in the beginning of each book, the sections are so clearly marked that it is quite easy to find.

The three *Observing Nature* books will have an instant appeal to young children. The illustrations have all the charm and clarity to be expected from the best of these picture books — which is not to say that they are "simple" and "ladybirds" have a brief and, although the syntax is a little odd in places, the meaning is perfectly clear and the information suited to a child's understanding. One must, however, query the accuracy of the statement that ladybirds are "guided by the sun, moon, stars". The *Little Chick* is quite so commendable. The text, and the pictures, are both excellent and stylish, highly attractive and unlike some of the other books in the series, the child would not be disappointed.

The projects at the end of each book (model making and crafts) are described as "easy" but will need deft fingers to them out.

## Biology for all

Biology, Functional, Systematic and Environmental. By G. B. B. & M. F. S. Thomas. Hulton Educational £4.80. 7175 0759 9.

Today there are so many biology textbooks from which to choose; but it would be a pity if this book were passed over as just one more. Even if he had knowledge of the subject, a student of any age working his way through it should be

well equipped to grapple with more specialized works and certainly to face examinations at O level (the book is designed to cover the GCE and CSE syllabuses at this level).

The book is divided into five parts which follow a logical sequence; part one defines what biology is all about and describes the method to be adopted; part two covers the cell in some detail and part five is about genetics and evolution. Adequate cross-referencing and indexing makes it easily possible to adopt a different order of

work according to the approach favoured or the requirements of a particular examination. The book is much of its value to the teachers.

With the material the teacher had available it must have been difficult to confine themselves strictly to a specific level of need but by doing so they have produced a book which will serve the full range of talent in biology. The general reader will find it as fascinating as the student find it valuable.

## New look

Harold Appleton

Carolina Biology Readers. Edited by J. J. Head. Packard Publishing Co, 16 Lynch Down, Tuntington, Chichester. 80p each (No 50, £1.35).

Although the series editor's name may be familiar, the Carolina Biological Supply Company of North Carolina is better known in the United States than in Britain. One glance at these booklets, however, would show a marked resemblance to the Oxford Biology Readers. This is because Oxford University Press has sold its interest in this series to the American company who have been selling them successfully in the States.

Many teachers of A level biology will have discovered the value of this excellent series of monographs. They are all written by accepted authorities who, in concise terms, bring the reader the most recent explanation of the topic. With a few exceptions, the series consists of short booklets of 16 pages each, ending with a useful bibliography of further reading.

They could be punched and issued as needed, to be put in ring folders to protect them, thus building up the textbook in stages as each topic is taught. The folders can then be collected in at the end of the course.

The subject matter of each is adequately explained by the brief. Most of the 30 or so booklets were written (and revised) by English authors, but the latest include some from the United States. Add to this a printer from that country and we have a "color" book, together with other American spellings.

It would be a pity to lose this valuable series, because of the possibility that our already difficult job — that of teaching pupils to "get on" scientifically as well as "everyday" — is made almost impossible by the introduction of American terms. The British distributor suggested to me that he might consider including a suitable correction slip.

## GEOLOGY

Andrew McLeish 0 216 00447 1 £2.50

This book covers the requirements of the various CSE, O level and O Grade syllabuses in geology. These syllabuses contain a considerable element of common ground, and the author's main aim has been to present this common material in as simple a manner as possible. The book will also be of use to pupils following non-examination courses. The text is clearly and concisely written and is copiously illustrated with diagrams and photographs. A modern, scientific approach to the subject is followed throughout, which demonstrates the inter-relationship between geology, geography and the other sciences and also stresses the environmental relevance of geology. Experiments are suggested where possible.

## A Course with Impact

### PHYSICAL SCIENCE

W. Bolton 0 216 00424 2 £2.50

This book constitutes a comprehensive and coherently organized text for students studying physical science or physics with chemistry at Certificate level. It will be found to be particularly appropriate for CSE candidates, but the depth of treatment also provides an excellent satisfactory basis for those taking GCE at O level. The text is clear and readable and is illustrated by a large number of diagrams and photographs.

The author has been associated with both the Nuffield Science Teaching Project and the Schools Council Integrated Science Project. He has also acted as consultant to a number of UNESCO teaching projects in the Third World.

"It is clear and friendly — a welcome departure from the dull and formal style of many science texts."

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## Formulae for success

D. B. Spiers on chemistry

Revised Nuffield Chemistry Teachers Guide II. Edited by R. E. Dawson.

Longman £15.95. 582 04631 X  
Chemistry: A Practical Approach. By A. L. Barker and K. A. Knapp. Macmillan £3.95. 333 18222 7.

Fundamental Chemistry. By M. J. Long and J. H. White. Heinemann £1.60. 435 64520 X.  
Chemistry Matters. By Richard Hart. Oxford University Press £2.50. 19 914050 2.

A Question Guide to CSE Chemistry. By J. W. Hill. Cassell 95p. 04 29869 7.  
Structured Questions in Chemistry. By C. Nicholas, E. O. Harries and P. M. Ingram. Whetton 65p. 08 021163 1.

The main change in the second stage of the Revised Nuffield Chemistry course is the introduction of an alternative route by which the problems many teachers have encountered with the more conceptual parts of the original scheme; in particular moles and the determination of chemical formulae are much nearer the end of the course. This enables social aspects of the subject to be included earlier and also to have more emphasis on industrial chemistry.

The original scheme has also been revised in some detail with particular attention to the objectives of each section and the updating of units. There has been some rearrangement of sections. One new addition is the use of conversion scales for calculations involving ratios. Some experiments have been redesigned for safety.

This stage two of the scheme is designed for pupils of average or above average ability, and it is claimed that it can be used after

other introductory courses. Certainly the alternative route will make the course more attractive to teachers whose pupils find mathematical concepts difficult, and the mass of detail will be of great value to those who wish to design their own courses.

The three textbooks each have a different emphasis. *Chemistry: A Practical Approach* is the only one to have instructions for experimental work. There are a large number of experiments described (including appropriate notes on safety) throughout the book with questions on each one. Each chapter also has a theoretical and factual section which can be used independently of the experimental part, and there are also a good number of questions, including ones from GCE papers.

The book is a good attempt at solving the problem of encouraging a questioning approach to the subject and at the same time providing the answers. But as each chapter is self-contained, there is

some illogicality of arrangement: for example experiments whose interpretation requires the ionic theory are met before that theory is developed. Some terms are used (without cross-references) before their definitions. Pupils would probably need a fair amount of basic knowledge before being able to use the book to full advantage.

Most topics are dealt with in some detail, with a particularly careful treatment of calculations, and important definitions are clearly picked out. Historical background is included, as are brief accounts of industrial processes, but these are mainly ignored.

*Fundamental Chemistry* (according to the preface) "summarises the knowledge that the authors feel pupils should have before they commence a formal sixth form course in chemistry". There is a tremendous amount of detail in the book, and some sections on topics usually only met in the sixth form. It would be better regarded as a

background reader for A level or for the more able fifth former.

An unusual amount of historical detail is included, as are descriptions of the plant for some industrial processes. Important words are often picked out in bold type, but there are some incorrect statements, e.g. "relative atomic masses are whole numbers" and two or three bad misprints.

Although *Chemistry Matters*, aims to cover various CSE syllabuses, it possibly has too much content for the average CSE pupil and could well be more useful for the weaker GCE candidate. There are some dubious statements, for example a reference to orbiting electrons, and the Periodic Table is ascribed to Niels Bohr.

The book is particularly good in its detailed treatment of descriptive chemistry, and contains a well set out treatment of equations and calculations on reacting masses, including worked examples. Well drawn diagrams and photographs illustrate the text. A summary at

the end of each chapter is really a list telling pupils what they should be able to do. An interesting feature of the book is the "extra-time" sections that attempt to relate the work to the outside world. Two examples are fertilizers and the acid-bath murders.

All three of these books have considerable merit, and are worthy of consideration.

The two books of questions are fairly standard. *Structured Questions* contains 62 questions divided into 11 sections covering mainly the theoretical parts of O level chemistry. Many of the questions are good tests of the understanding of pupils and there is a wide range of difficulty.

*A Question Guide to CSE Chemistry* has both short answer and longer questions, and includes some multiple choice examples. Most of the questions test knowledge, and the knowledge required covers a wide range from the preparation of nitrogen monoxide to the anodising of aluminium.



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## Biology: A modern introduction

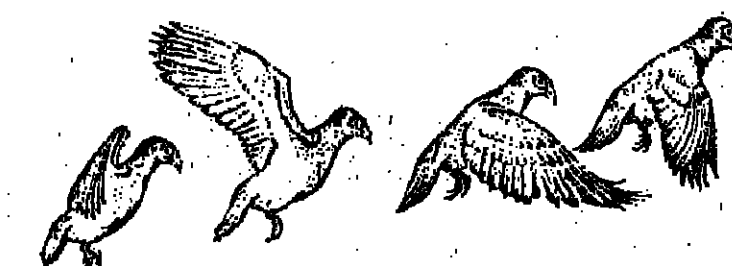
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## Stranger than fiction

John Ryle on "Face Values"

**Face Values**. Edited by Anne Sutcliffe. BBC Publications £8.50.  
 Peru: The Quechua (land and People Pack: six booklets, 24 slides, one audio cassette). BBC Publications £3.55.

There is a television film in which an African anthropologist makes a journey by canal to interview the mayors of Wigan about kinship patterns in the North of England. This was an ethnographic flight of fancy, but these days the BBC series **Face Values** thinks nothing of transporting viewers from a birthday party in the forest of Dean to a cockfight in Bali in the space of one programme. It would be unfashionable to say that the film is a piece of cultural anthropology, but it is a piece of anthropology. The series, though, is quite strange.

The other five comprise the Maltese, the Swahili of Chole Island in Tanzania, the Balinese, the Gypsies of California and the Kayapo Indians of Brazil who are described both in the book and on the screen by professional anthropologists who have worked with them. This is something **Face Values** has in common with its only rival, Granada's **Disappearing World**, but the presentation of the programmes is rather different. **Disappearing World** films concentrate on a single people, **Face Values** takes a theme such as sex differences or body symbolism or rites of passage and treats it cross-culturally with material from three or four different cultures. The comparative approach makes **Face Values** potentially more rewarding and perhaps

more useful as an educational device, but it gives individual programmes a switch-back feeling not alleviated by Prince Charles's role as link-man—eliciting explanations from ethnographers in a drawing room at the Palace.

Indeed, if anything were needed to justify the inclusion of our own culture in this exotic collection, it is provided by these royal duties where the Prince plays layman to a succession of slightly fazed savants. ("Tell me, professor, what have your researchers uncovered in the Antipodes?") The institution of monarchy, however, does not come under scrutiny in the programmes. The seven **Face Values** provides a very useful adjunct to the film. On its own, it would not necessarily be the best introduction to anthropology, though it contains one or two estimable pieces, notably Jean LaFontaine's brief history of the subject, Jeremy Boissvain's discussion of the Maltese and the editor's own account of the Gypsies of California. For a simple and cogent exposition of the anthropological perspective, a book like David Pocock's *Teach Yourself Anthropology* is better value, but the seven contributors to **Face Values** give a good idea of what it means to be an anthropologist at work.

Good elementary teaching materials in anthropology are so scarce that the **Land and People** project launched by the Royal Anthropological Society (also involved in the subject, Jeremy Boissvain's discussion of the Maltese and the editor's own account of the Gypsies of California) is a welcome addition. The first teaching pack, with slides, audio cassette and half a dozen booklets, is devoted to the Quechua of Peru (also the subject of a **Disappearing World** film). Whether pupils in the 11 to 14 age range will benefit as much from studying them as they would from learning French, say, or European history is questionable. But if they are, to do anthropology this would be a good way to begin.



## Operation egg-drop

Philip Hyatt on primary science

**Sciencewise**. By Sheila Parker and Alan Ward. Nelson. Books 1-4 70p each. Teachers' Books £1.00 each.

This series clearly embodies the principles adopted and recommended by the Schools Council Science 5-13 Project, to which the two authors acknowledge their debt. There is plenty of evidence here that current notions about children's scientific thinking have been key factors in the planning and production stages. The introductory notes contained in each of the teachers' books reveal the conceptual structure, the objectives for each phase (pair of books) being clearly stated. As the authors suggest, children will be largely unaware of this underlying structure and of the progressive nature of the activities, but its existence is crucial in giving this series, claims to special merit.

The presentation and layout are distinctive and proclaim in strident tones the message that doing science in its many aspects is fun. The cheerful, somewhat zany illustrations are functional and helpful as well as being witty and charming. All instructions, captions and questions are expressed in a style which, though being free of jargon, is nevertheless wholly appropriate to these scientific activities.

There is much encouragement to think and experiment without too many clues as to what should be done. Some of the ideas are probably, and in failure given the basic materials—such as in the invitation to make a bird's nest. But the failure is not a consequence of the authors' ignorance of children's skills, rather the reverse, since that example of failure could be very productive in terms of understanding the complex operations involved. There is a wide range of interesting

topics, such that one cannot conceive of children (or teachers for that matter) becoming bored. Most of the experiments involve the use of fairly easily acquired apparatus and materials, conveniently listed at the end of each teachers' book.

The series permits considerable flexibility in use. Some teachers will want to use it as a class book, and, given a generous supply of apparatus and superb class management, it would probably work. Other forms of organisation based on smaller groups, or with individual children, would seem to be more appropriate and certainly easier to cope with. While the authors claim that children could be left to get on with the work, there would seem to be great advantages in having teacher fairly close at hand if the maximum development in terms of good questioning, observation and (where necessary) recording are to accrue.

With such an abundance and range of activities as that contained in these books it would be very remarkable if there were not some which caused one to raise the eyebrows a little. For example, in an otherwise excellent section on estimation, children are asked to "estimate the size of the postage stamp" which would need to deliver all the letters in your area. For this, there are very few such questions. From a slightly different point of view there are some experiments, such as *Operation egg-drop*, *Footprints*, *Splashing fun*, and *Skin game*, which could make considerable demands on children's sense of discipline, teachers' control, or both.

The teachers' books are simply the children's books with notes cleverly added to indicate the principles being explored and suggest further possible activities. I found them very helpful indeed. This is a new way of presenting science as a way of working, and as such it is eminently suitable for children of junior school age.

## Wild ones

**Animals of the Wild**. By Edmund Selous. Elephants. By Edmund Selous. Lions. By Mary Chippendale. Penguins. Chimpans. By Mary Selous. £2.50 each.

Each of these books, containing between 50 and 60 pages, is produced on good quality paper with beautiful covers. The text is by a well-known authority and is concise and informative. In a language suitable for upper primary children, it gives a lively and useful introduction to the making of a suitable project. The photographs obtained from the well-known sources. Some of the others have not reproduced well. Whereas some of the photographs are crisp and clear, others are washed out or suffer from colour casts. This is a pity, as the series is intended to be a valuable addition to the school library.

## Cosmetics to crime

Frank Anstis

**Working with Science**. Units, teachers' notes and teachers' guide. Longman £8.50 plus £1.00 p & p for one set, from Longman Group Ltd, Resources Unit, 33-35 Tanner Row, York.

**Revised Nuffield Physics**. Edited by Eric Rogers and E. J. Wenham. General Introduction, Teachers' Guide 3 and Pupils Text Year 3. Longman £8.95.

The Nuffield Foundation, long established as a fruitful source of innovation across the whole spectrum of curriculum development, continues to excite and stimulate teachers at every level. Its influence and prestige is such that it may not even be unreasonable to suppose that the world Nuffield will work its way into English dictionaries.

**Working with Science** is a relative newcomer among Nuffield projects. Its target group is principally comprised of pupils entering sixth forms or colleges of further education without intending to take adequate reference material. A level examinations. These are the "new sixth formers" whose sights may be set on a Certificate of Extended Education examination at the end of one year's study.

Sixth formers such as these, unheard of in pre-computer days, are now recognized as a group for whom it is necessary to produce suitable new courses. Ideally these new courses should be based upon topics which appeal to students' interest because of some obvious and immediate relevance to their everyday life, or because of their immense importance to the community at large.

**Working with Science** is a series of study units which aims to escape from an academic approach to science. At the same time it hopes to implant knowledge and understanding of the variety of applications of science to the world as we know it. The series is prepared by a clear and accurate description of what students should

achieve as a result of their studies. The titles "Cosmetics", "Crime Detection", "Survival", "Food" and "Hair" indicating both the range and the off-beat nature of the series.

The units are divided into sections, each with its own practical work, ideas for discussion and suggestions for study and further reading. Generally the aim is to take the student away from the classroom into the community, and there is ample material to make this possible. About four of these units should make a varied and satisfactory year's course.

Although these study units effectively prepare the ground and remove the need for each teacher to develop his own student guides, there still remains a great deal to be contributed by the class teacher if the course is to be successful. Teachers' Notes 2, which accompanies the units, give warning of the many preparations which must be made beforehand. In addition to certain fairly readily available apparatus, it is essential to provide adequate reference material. Teachers must also be alert to the need for discreetly encouraging students towards their objectives.

The authors of the units acknowledge the demands which such a course places upon both the teachers and resources of participating schools. Help towards a final decision about adopting the course is given by a questionnaire on page two of Teachers' Guide 2. Answers to these questions will certainly reveal shortcomings which may need attention before the course can be successfully introduced into a school.

Unlike the **Working with Science** project the Nuffield O level physics course is a well established feature of the educational system with over 20,000 pupils now being entered for the examination every year. After a decade or more the time has arrived for a revision of the original material and teachers will welcome the publication of this revised series of books.



"Elephants" is one of the excellent **Closer Look** books now available in paperback (**Hamish Hamilton 95p**). Others include "Ants", "Birds" and "Prehistoric Reptiles".

Much remains unaltered, but two features make this revision a particularly welcome replacement for the old. One is the fact that the revision demands little in the way of extra apparatus. The other feature, which will be appreciated by teachers and pupils alike, is the provision of a pupils' text incorporating the old questions, experimental notes and new descriptive material into a single volume. The late Dr. P. Boulton's questions have been rewritten without losing their former usefulness and additional progress questions of a simpler nature have also been included in the pupils' text. These modifications, along with certain changes in emphasis, should make the books more adaptable for use in comprehensive schools.

Both the new and the revised Nuffield publications serve to emphasize the vigour of Nuffield projects. The only thing which lessens the good impression is the continued separate development of Nuffield Science. It now looks as if this separate development will continue into the next decade with separate Nuffield courses being prepared for N and V level examinations. For many this must be a disappointment.

## Numeracy rules ok

Get It Right. By The Scottish Mathematics Panel. Foulsham. Books 1 to 4 48p each.

The Scottish Mathematics Panel has performed a great service to teachers who see great store not only by the extent of their pupils' knowledge, but by their accuracy and ability to estimate.

In the first four books in the "Get it Right" series, the panel has gone a long way towards meeting the criticisms of employers in general, and industry in particular, that candidates for jobs leave school poorly drilled in computation and that they are semi-numerate.

When the so-called New Maths was introduced some dozen years ago, the accent was placed on concept. Skills, such as learning tables and adding accurately, or knowing where to put the decimal point, were pushed into the background—if they were present at all. Even now, with the advent of the cheap electronic calculator, and their acceptance by the boards of most public examinations, there are those who erroneously believe that accuracy is an unnecessary accompaniment. Mistakes made by bank computers are very often the direct result of one of their operators not knowing that the decimal point is in the wrong place. This series will help to rectify these errors.

Each book contains about 30 pages of 10 or so topics, with titles such as The Decimal System; Percentages; Basic Accounts—Telephone, Electricity, Gas, Income Tax; Statistics; Areas and Volumes. Each section is crammed full of graded exercises, giving plenty of practice in getting the answer right.

The bulk of the exercises consists of drills in computation, including the Four Rules applied to whole numbers, fractions and decimals; squares; square roots and logarithms. There are also plenty of problems where appropriate in topics such as rate, ratio, percentages, areas.

Some of the sections have useful reminders about the topic at the head of the exercises; but inclusion of the formulae to be used in the memorisation sections would have proved useful. However, presumably the series is designed to be used in the classroom, and perhaps these are not serious drawbacks. Apart from some easier topics in the early sections of book one, the separate parts seem to be of uniform difficulty, and cover distinct topics. So the books can be used together for revision as well as exercises in accuracy, in the year or two leading to O level. There are answers at the back of each book.

David Monk

## Wrong wavelength?

The Radio Universe. By Roy Warrill. Kahn and Averill. £2.25. 900707 42 9.

This is a competent but uninspiring account of the modern science of radio astronomy. Half of the rather limited space of the book is taken up with a run of the mill historical introduction, and it is only on page 48 that we are introduced to the large modern instruments which make radio astronomy so important today. The exciting new discoveries of radio

astronomy—quasars, pulsars and so on—have to wait until well into the last quarter of the volume before being allowed a brief appearance.

A greater emphasis on modern developments would have made for a much more appealing presentation, and the poor discussion of the possibilities of radio astronomy for amateur groups is particularly unfortunate; the book is likely to excite neither the day-dreaming "theorists" nor the more practical electronics hobbyist. Roy Warrill has written some fine books on amateur optical astronomy, but his

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  8. Some common gases
- Year 2**
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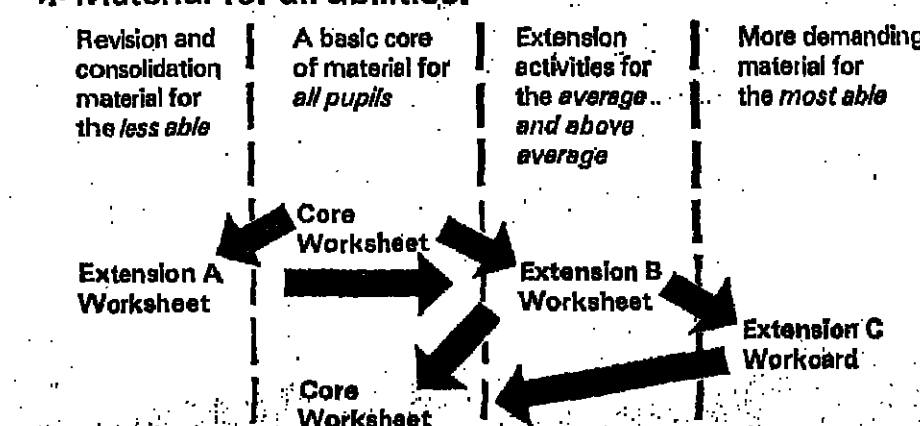
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- \* Materials
- \* Colour and Light
- \* Growth and Development
- \* Electricity and Magnetism
- \* Sound

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## Where babies come from

Peggy Heeks

The Male reproductive system. The Female reproductive system. By Kathleen Elgin. Franklin Watts £1.95 each.

These reprints, originally published in 1969, present problems to the book selector by their very neutrality, and may in the end commend themselves for the missing elements—sensationalism, disturbing diagrams, cynicism. The 60-page surveys have neither chapters nor contents pages; this inhibits reference use, and means one has to read straight through.

Doing this, one's assessment of readability changes radically. In both books we are led in by decep-

tively simple openings of linked figures and basic text: "All living things can reproduce themselves". By halfway we reach "Testosterone enters the bloodstream and transforms a boy into an adult male", and "The action of the sex hormones transforms a girl into an adult female, with the secondary sex characteristics".

We are, perhaps, especially critical of books on sex education because the subject matters to us more, and we can all claim a modicum of expertise. The spectrum ranges from the clinical (which we resent as dehumanizing) through the vulgar (using popular rather than scientific vocabulary) to the "Isn't it wonderful?" approach.

Elgin's text veers to the cold pole of this spectrum. The challenge for writers is to maintain scientific credibility while presenting facts and facts in a form which children can internalize. Elgin's illustrations are fairly helpful. The weakness of her text is that it keeps the reader at arms' length, that it makes rather than uncovers meaning.

Current thinking about learning across the curriculum makes the language of these books of 1969 appear dated. Take, for example, the sudden filling of the blood channels results in the enlargement of the penis so that it can deposit the sperm in the female reproductive system more easily. Is this an explanation or a get-out?

## Casting light

F. W. Kellaway on science for the less able

Lamp Project, Teachers' Handbook and Topic Briefs 1 to 6. The Association for Science Education £5.55 complete set.

Lamp is an apt acronym, for this series really does illuminate a way to teach "less academically motivated pupils". The education research committee of ASE has for some years been considering materials and methodology suitable for pupils in the lower levels of the fourth and fifth forms of secondary schools.

A main outcome of the project is "a series of resource materials, or Topic Briefs, outlining possible science-based activities". The teachers' handbook (available at 75p) outlines the format and use of the briefs, discusses ways in which they reflect the general teaching aims of the project, and hints at future developments.

The first half dozen Briefs (all available separately at prices between 60p and £1.20) consider fuels, heating and lighting a home, pollution, materials, photography and gardening. Other subjects will include health and hygiene; space and space travel; paints and dyes; microbes and man; electronics; and the human body.

The problem of dealing with "pupils who for reasons of ability or lack of motivation are technically not examinable at CSE level, i.e. the bottom 40 per cent of the ability range" have been squarely

faced. The quality of such pupils and of some teachers, are much of concern, but here is guidance that may help both groups.

There is an abundance of good sense in the statement of aims of the project, and in the advice to teachers. The handbook contains more relevant ideas than do many a massive tome on pedagogy, while the Briefs offer a purposeful approach to an "education through science". Their notes on content, sources of material, demonstration lessons, pupils' experiments (with attendant work, information and record sheets) and much more, are praiseworthy in the extreme.

The project could mean a marked improvement in the level of science work with weaker pupils.

## Bird lore

As the falcon her bells.

By Philip Glaser.

White Lion £5.95, 7274 0355 9.

The Ways of an Eagle.

By Lea MacNally.

Collins £5.95, 00 262208 4.

Books about birds of prey are few and far between so these two, one a reprint and one new, will be welcomed by an increasingly bird-conscious public. Both are informative and both are written with the infectious enthusiasm of dedicated naturalists.

Glaser's knowledge of the British countryside and its fauna is deep and his pets have ranged from pygmy shrew to eagle owl, but his particular obsession is the yellow-bellied professional killer called a falcon.

As a youngster he was fortunate in having as his uncle Captain Charles Knight, the well-known ornithologist. Whether he was at school or in the army, at home or abroad, Glaser managed to find time for training his beloved hawks. Gavin Maxwell calls this book one of the least bogus ones he has ever read. It is absorbing, often funny, and always unpretentious.

Lea MacNally's eagles are golden and his book is the result of 20 years' field study, recording the weekly growth of young eagles, the variety of prey found at the nest, the skills of patrolling birds and the aggressive tactics of one particular female eagle. More than 200 of the best of the birds are shown in the development of four pairs of nesting eagles visited during regular 2,000 mile tours of coasts.

The particular joy of both books lies in the authors' profound admiration for the life they so minutely observe. The first book has been in demand since its initial publication 15 years ago. Like all birds of prey eagles and falcons have made enemies in gamekeepers and egg collectors, once the RAF, and then pest-control agencies. Mr. Glaser does not dwell on conservation, although it is implicit in his story, but progress has brought both species to the point where survival hangs in the balance. Lea MacNally draws up tables to show how necessary protection is. Sadly, Peisinger

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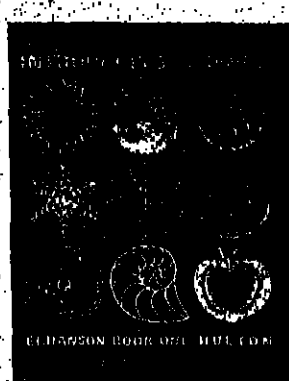
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## Out of this world

Patrick Moore

Intelligent Life in the Universe. By T. S. Shklovskii and Carl Sagan. Picador £1.75, 330 25125 2. Sagan. Focus on the Stars. Edited by H. Messel and S. T. Butler. Heinemann Educational £4.80, 435 98392 2. £2.25, 283 98393 3. The Observers' Book of Astronomy. By Patrick Moore £1.25, 7232 1575 8. Frederick Warne £1.25, 7232 1575 8.

Intelligent Life in the Universe is regarded as a classic, and when first published, in 1966, it caused a major sensation. Of its two authors, Shklovskii is a well-known Russian astrophysicist who has been responsible for fundamental advances in science, while Carl Sagan is known both for his pioneer work in what may be termed "exobiology" and for his popular books and lectures.

The original book surveyed the whole problem of life beyond the Earth, and made some speculations which were both fascinating and sensational. Today the text is as intriguing as ever—but this is simply a reprint, and no account has been made to bring it up to date. Thus a whole chapter is still devoted to the possibility that the two dwarf satellites of Mars are artificial space-stations, though this idea has been firmly disproved by the space-probe results (see Sagan's account in the second book under review).

We know much more now than we did in 1966, and an updated version of this volume would have been very worthwhile indeed. A good opportunity has been lost.

The same sort of criticism may be levelled at Focus on the Stars. Here we have a book which is semi-popular, inasmuch as some sections require a certain amount of mathe-

matical knowledge. It is written by eminent authorities, and is of tremendous interest. But J. B. K. discusses our own galaxy, J. P. Wild writes about the sun, Sagan about Mars as seen from Mariner 9, R. Hambury Brown about molecules in space, Peter Goldreich about cosmology, and Frank Drake about the search for life beyond the Earth. All the chapters are well-compiled, and the overall survey of the book could not be bettered—but again, it is not up to date.

It is an edited version of a course of lectures given in Sydney, Australia, some years ago, and has clearly not been overhauled. What is the point now in discussing Mars in the light of the Mariner 9 results of 1971-72, when so much more information has been gained from the Viking vehicles which have actually landed on the planet? And on page 76 we read of the total solar eclipses of 1974 and 1976 as lying in the future. This is simply not good enough. Modern astronomy is a fast-moving science, and readers are entitled to object to paying a relatively high price for a book which is so dated despite its useful use.

Space Colonies is a large-format paperback, and is frankly a hotch-potch, ranging from authoritative interviews with eminent authorities (such as the astronaut Russell Schweickart) and a description of the space colony project outlined by Gerard K. O'Neill on the one hand, to children's letters on the other. The type is in places irritatingly small, and the overall impression is one of confusion, but the discerning reader will find many sections of real interest. More drastic and orderly editing would have been desirable.

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## Flora and fauna

F. J. Thompson on Teesdale

Upper Teesdale: The Area and its Natural History. Edited by A. R. Clapham. Collins £7.50, 00 219743 x.

In the late sixties naturalists in the North of England were shocked to learn of a proposal by the local water boards to build a dam across the Tees which would submerge much of Upper Teesdale, an area of outstanding beauty and well known by naturalists for its unique collection of botanical specimens. The vegetation here was a surviving remnant of an Ice Age flora and many of the plants were to be found in no other part of the country.

In 1967 local naturalists formed the Teesdale Trust, the prime objective being to collect as much information as possible on the area before it was drowned. ICI, a major user of the water, donated £10,000 to the trust to sponsor further research. This book gives an extremely detailed account of the natural history and of the scientific research carried out both by amateur and professional naturalists in the area since 1967.

The book is divided into four major parts, each part divided into chapters, each written by an eminent naturalist, members of Sheffield, Durham and Lancaster Universities, of the Nature Conservancy Council and the Freshwater Biological Association.

The first deals with the plant life of Upper Teesdale, phytoecology, variation and evolution, population densities, communities and the history of the vegetation and flora, while part B dealing with the environment, geology, soils and vegetation, offers possible explanations for this concentration of rare species of plants.

Although mention of this area to fellow naturalists immediately brings to mind the unusual plant life, one must not forget that this area also has its fauna. Part C deals with the animals, the first

chapter stating that some 1,454 species, including 83 species of birds, have been recorded in the area, while further research is likely to increase this considerably, and continues by listing many of those found giving reasons for the restrictions in their numbers—"amongst the most important are undoubtedly the relatively small number of different plant species and the scarcity of trees".

The remaining chapter of this section deals with the Freshwaters of the Cow Green area before and after the dam was constructed with details of physical and chemical changes and the effect on the aquatic life and fish.

The final section deals with the larger aquatic plants, the changes caused by the dam to the catchment area and waters below the dam and possible effects on the plants.

The last chapter is a useful summary of what has gone before and offers much food for thought on the future of this outstanding area. "Nevertheless, there are grounds for hoping that, with improved public interest and goodwill on all sides, the future of Upper Teesdale, in the shape in which we know it today, may be reasonably secure."

There are some 238 pages of small, close print packed with information, eight colour photographs and 24 black and white plates, two detailed maps that include the front cover showing Upper Teesdale, with its two National Nature Reserves, the other, inside the back cover, being a geological map of part of the area.

This is not a book to be read in a hurry. It contains too much information and detail. But it is quite readable and one will not become bored, down with too much scientific jargon. It will be of great value to the naturalist even though he may not be familiar with the area, and is a useful guide to what should and can be found when an area is threatened by development.

## Starry eyed

Frank Anstis

The New Challenge of the Stars. By Patrick Moore and David Hardy. Mitchell Beazley £4.95, 85533 133 X. 1978 Yearbook of Astronomy. Edited by Patrick Moore. Sidwick and Jackson £4.50, 283 98392 2. £2.25, 283 98393 3. The Observers' Book of Astronomy. By Patrick Moore £1.25, 7232 1575 8. Frederick Warne £1.25, 7232 1575 8.

Patrick Moore must surely be considered a firm favourite for entry in the Guinness Book of Records as the world's most prolific author in the field of amateur astronomy. And if this assertion is refuted it is most likely to be by the knowledgeable Mr. Moore himself. Certainly these three books all owe something to his enthusiasm and skill as a communicator.

The first book is an excitingly new addition to the wide range already available in the field of space science, the second a welcome reappearance of a highly annual, and the third an up-to-date version of an old favourite.

The large and colourful New

Challenge of the Stars allows Patrick Moore and David Hardy full scope for their respective talents. As writer and artist they have collaborated to provide an amalgam which combines the attraction of carefully selected and well established fact with the fascination of a well disciplined but free ranging imagination.

By landing on the moon man took his first step into space. It is a step which has encouraged the authors to be boldly imaginative about subsequent strides of increasing magnitude. Without straying too far from the disciplines of accepted fact they have provided in word and colourful picture an exceptionally vivid portrayal of what might lie ahead. A science fact look at science fiction is an apt description of this immensely exciting book.

The up-to-date Observer's Book of Astronomy, like other volumes in the series, is compact, well-packed and highly informative. It makes an excellent starting point for beginners, and a library copy is certain to be in constant demand.

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## Life-style of the reptile

How Reptiles and Amphibians Live. By Arthur C. Kitchner. Live. Kieveler Phislon £4.50, 7290 0023 0.

Professor Kitchner makes the point in this book that of the living vertebrates, amphibians and reptiles are, generally speaking, the least well known and certainly the most maligned.

The dominance of one group has given the Mesozoic era its popular name, "The age of reptiles". An

unsolved mystery in the history of life on the earth is the disappearance at the end of that era (some 70 million years ago) of most of the then existing groups of reptiles. As the amphibians had appeared 370 million years before that, one might think that these events would have aroused greater interest in these animals today. Perhaps this excellent book will provide that interest, and perhaps it will be of great interest and surprise.

There is, for instance, still some disagreement about the classifica-

tion of these animals and there can even be difficulty in recognizing some of the amphibians for what they are. This series (the book is volume 6 in the series How Animals Live) provides good examples of the use of photography to illustrate "serious" zoological studies and makes a useful contribution to the literature covering the life-style of these animals. A glossary would have been of assistance and perhaps a short bibliography for those who want to know more.

R. C. Vernon

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# All about molecules

John K. Williams

**Molecular Structure: Its Study by Crystal Diffraction.** By J. Clare Speakman. The Chemical Society £12.00. 85186 689 1.

**Valency and Molecular Structure** (fourth edition). By E. Cartmell and G. W. A. Powles. The Butterworth Group £4.95. 408 70809 3.

**The Shapes of Organic Molecules.** By N. G. Clark. John Murray £1.85. 7195 2933 6.

Dr Speakman's booklet is the thirtieth publication in the series of monographs for teachers which was launched in 1959 by the Royal Institute of Chemistry and is aimed at A level students and above.

It is an authoritative account of the study of molecular structure by diffraction methods and it contains some considerations of symmetry, X-ray diffraction, crystal diffraction, neutron diffraction, and it discusses the phase problem. The author has produced a booklet which is an

excellent tour d'horizon of the subject. Its one disadvantage is its lack of detail (for example experimental data) but this is to a large extent compensated for by the bibliography which would help guide a serious student to the relevant literature for further studies.

**Valency and Molecular Structure** is aimed at G.C.E., H.N.C. and H.N.D. students and covers the bonding in molecules with which students are expected to be familiar. Since its first edition in 1956 the book has been completely rewritten and it now includes a new chapter to serve as an introduction to the spectroscopy of complex compounds.

It begins by giving the history of the theory of chemical bonding and develops the theme to cover hydrogen bonding, the structures of some simple inorganic compounds and also complex compounds. It also gives a summary of the valence bond approach and the molecular orbital approach to bonding including a simple mathematical treatment. Difficult ideas are explained with remarkable clarity and I have no

hesitation in recommending a book in view of the fundamental and growing importance of the subject. The author of *The Shapes of Organic Molecules* claims that the purpose of this small book is to persuade the student of the chemistry to think in three dimensions about even the simplest rule or reaction. His claim is justified.

The book begins with the steps chemistry of the methane molecule and then develops the methane-carbon atom theme to cover such as conformation, optical isomerism and then on to consider its implications in complex molecules such as the stereochemistry of simple organic reactions and the stereochemistry of drugs. The book is a pleasure to read and it provides a level and a challenge to students with an introduction to stereochemistry implications.

## Organic compounds

George Corfield

**A New Introduction to Organic Chemistry.** 81 Edition. By G. I. Brown. Longman £3.50. 582 35228 6.

**Organic Chemistry: A Conceptual Approach.** By G. H. Williams. Heinemann Educational Books £3.20. 435 65930 8.

Brown has rewritten his earlier book, now almost 20 years old, modernizing his approach and updating the content. The result is a wide-ranging introduction to organic chemistry, almost 400 pages long with 25 chapters, containing a tremendous amount of detail and intended as a thorough revision of the material required for A level examinations and University scholarship examinations.

As well as covering the chemistry of all classes of organic compounds, there are chapters which include aspects of practical chemistry, the petroleum chemicals industry, biologically important com-

pounds and plastics. The chapters on functional group chemistry include the traditional lists and summary charts of preparations and properties, together with the mechanistic details of all important reactions.

Unfortunately, the detailed treatment of stereochemistry is relegated to chapter 20, with modern terminology (e.g. chirality and conventions (e.g. R and S) being ignored. However, there may be enough to cover syllabus requirements. I was disappointed with the chapter on stereochemistry which is a confusing mixture of preparations and properties. Cross-references are used extensively throughout the text, and each chapter terminates with a large number of questions.

The book is sturdy bound and inexpensive. It is a welcome addition to the shelves of teachers and students. The book is sturdy bound and inexpensive. It is a welcome addition to the shelves of teachers and students. The book is sturdy bound and inexpensive. It is a welcome addition to the shelves of teachers and students.

would require careful planning throughout the course.

G. H. Williams's is much more and the material more clearly presented. The emphasis of the book is upon explanations of the fundamental concepts and mechanisms of organic chemistry. This is done in an easy-to-read style, with an approach and depth of treatment which will make an excellent foundation for tertiary level studies.

Four chapters introduce the basic concepts of stereochemistry, reactivity which are then taken up in later chapters to the study of functional groups. The book introduces some biochemical concepts in the final chapter. Applications of stereochemistry are discussed in the final chapter. Applications of stereochemistry are discussed in the final chapter. Applications of stereochemistry are discussed in the final chapter.

## Perpetual motion

**Agricultural Location.** By Michael Walker. Blackwell £1.95. 631 93660 2.

**Industrial Location.** By Trevor Wilson. Blackwell £1.95. 631 93670 X.

**Ways to Move.** By Roger Robinson. Cambridge University Press £4.40. Paperback £2.25. 521 21271 5. 521 29081 3.

All three books deal with concepts and techniques. They are directed at sixth forms and, in *Ways to Move*, at first-year college and university students.

The splendid partnership of Wilson and Walker continues to produce attractive, workable and thoughtful books well-suited for the intended age range. Both their books are centred around the eye-catching approach of the 'hypothesis' and 'hypothesis' techniques.

In *Agricultural Location*, the models of agricultural land use, the influence of physical factors, human factors and technological patterns are examined. These are related to population, sampling, dispersion diagrams, statistics, hypothesis testing and regression analysis techniques.

In *Industrial Location*, the distribution of manufacturing industry, its location, changes in technology and transport are related to correlation, the location quotient, the bid rent model, hypothesis testing and regression analysis techniques.

Without doubt this is an interesting new look at movement but it is likely both in arrangement and content. Could teachers spare the cash for just one book on this topic?

classes and essay questions with a good bibliography and sensible reference within the text to seminal articles and books.

*Ways to Move* argues that "movement is very significant and a central element in geographical understanding" and by explaining the general ideas of movement and accessibility the author hopes to provide a foundation course in movement studies. Certainly, the book presents in many ways a novel and refreshing approach and it integrates some interesting activities with the textual exposition.

First, personal movement is examined in relation to football and shopping. This is then summarized by a model. Branching networks are related to pedestrian movement and footpath routes both abroad and in Britain. Of particular interest are former routes once serving villages now deserted.

Comparison with stream ordering is also made. The development of networks will be of interest to historical geographers and it is accompanied by a 'caravan simulation' and 'round the clock' exercise. The map of major urban areas in Britain with major scars seems to lack quite a number of scars.

The book concludes by examining the use of networks, modes of transport and accessibility. Several exercises based on Humberston, Leicestershire, are included. The book is a welcome addition to the shelves of teachers and students.

Each book is clearly written and readable. They are useful exercises for teachers and students.

## Safety first

**Laboratory Safety.** By P. Atkin and J. Passmore. Heinemann £1.20. 435 87050 1.

No one has yet suggested that the decline in the number of pupils opting for science courses has anything to do with the lack of encounters; but there is a real risk factor in the way science is taught. The book is a welcome addition to the shelves of teachers and students.

This is designated as a teacher's source book and it provides a comprehensive account of all relevant safety information. It is not a book for the student, but a book for the teacher.

Quite rightly the chemistry laboratory is a dangerous place. It is a place where accidents can happen. The book is a welcome addition to the shelves of teachers and students.

The book is a welcome addition to the shelves of teachers and students. It is a book for the teacher, not the student. It is a book for the teacher, not the student. It is a book for the teacher, not the student.

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Humanities continued from page 42

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**WOLVERHAMPTON**  
CITY OF NEWCASTLE  
EDUCATION COMMITTEE  
WALKER IN CHARGE OF  
MATHS/SCIENCE  
Tel: 0191 274 1111  
Applicants should be aged 11 to 12, have a good academic record and be able to offer a commitment to the school.

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## LONDON

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**SURREY**  
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 Ball Grammar (#10 on roll, 200 plus)  
 title



# Somerset

Applications are invited from suitably qualified and experienced teachers for the following posts. Unless otherwise stated, application forms and details (S.A.E. footscap) from the Heads at the schools.

STAP forms accepted from students for first appointments only.

Please quote reference 26/5 on correspondence.

## Secondary

**Huish's V.C. Boys Grammar, Taunton**  
(At present 11-18 selective intake, 820 boys, 210 in sixth). This grammar school will become a co-educational 6th form college between 1978 and 1982 by losing boys at 11 from 1978 and taking girls at 16 plus from September 1980.

For September 1978 or January 1979, GERMAN specialist, scale 1, 'O' and 'A' level teaching available. Interest required in strong and growing German exchange. Scale 2 post available for experienced candidate with more than one language, French not required.

Applications, by 5th June, by letter to the Head at the school, with curriculum vitae and names of two referees.

**Sydenham Comprehensive, Bridgwater**  
(11-18 mixed, 1,000)  
For September 1978 or January 1979, teacher, scale 1, to teach mainly CHEMISTRY up to 'C.S.E.' and 'O' level, with some Physics and Combined Science. Closing date: 12th June, 1978.

**The Blue School, Wells**  
(11-18 mixed comprehensive, 1,331)  
For September, 1978, scale 1, for MUSIC able to help with school orchestra and possibly brass group.

(2) Teacher, scale 1 of GENERAL SCIENCE for lower ability groups, able to teach Chemistry to CSE level. Applications by letter as soon as possible, with curriculum vitae and names of two referees. Please quote reference CA on all applications. S.A.E. for result if required.

**Bucklers Mead Comprehensive, Yeovil**  
(11-16, mixed, 1,300)  
For September 1978, teacher Scale 1, for Metalwork. Excellent facilities available. Applications by letter as soon as possible, with curriculum vitae and names of two referees.

## Primary Deputy Headships

**Somerset County Infants, Somerton (280)**  
For January 1978, DEPUTY HEAD, Group 4. Willing to organise teaching in top infant section, three classes, and to be mathematics consultant throughout the school. Closing date: 5th June, 1978.

**Kingston St. Mary V.C. Primary, Taunton (89)**  
For September 1978, DEPUTY HEAD for this Group 2 school. Ability to take games and outdoor activities. Music C advantage. Vacancy due to promotion. Closing date: 5th June, 1978.

**Somerset Bridge County Primary, Mr. Bridgwater (108)**  
For September 1978, DEPUTY HEAD for this Group 3 school, with responsibility for co-ordinating language development throughout the school. Closing date: 5th June, 1978.

**Berrow V.C. Primary, Burnham-on-Sea**  
For January 1979, or earlier, if possible, DEPUTY HEAD for this Group 4 school. Closing date: 12th June.

## Primary

**St. Joseph's R.C. V.A. Primary, Bridgwater (198)**  
For September, 1978, teacher, scale 1, in the infant department.

**Somerset Bridge County Primary, Mr. Bridgwater (108)**  
For September 1978, teacher, scale 1, for reception class.  
**North Town County Junior, Taunton (280)**  
For September 1978, teacher, scale 1, for general classroom teaching, 7-11 age range. Temporary post for four terms only. It would be an advantage if the successful applicant were able to assist with boys' games throughout the school.

**Birchfield County Primary, Yeovil (358)**  
Re-advertisement.  
For September, 1978, or January, 1979: HEAD OF INFANT DEPARTMENT, Scale 3.  
Applications by letter, as soon as possible, with curriculum vitae and names of two referees.

## Others

**Horsetate teacher for Woodwind Instruments**  
For the North-East Somerset area (Cheddar, Wells, Glastonbury, Street and Frome).  
For September, 1978, if possible, duties include instrumental tuition to small groups of pupils and individuals in secondary, middle and certain primary schools, and participation in the activities of the St. David's Saturday Morning Music Club in Street and the Somerset Youth Centre, Wells. Candidates will undoubtedly have expertise in one woodwind instrument, ability to teach other, orchestral woodwind instruments to a reasonable standard is required, and conducting experience with some orchestral ability, although not essential, would be useful.

Applicants may be appointed within Somerset County. Application forms and details (S.A.E.) from Staffing (T) Section, Education Department, County Hall, Taunton. Closing date: 5th June, 1978.

# Cheshire

Application forms (send six), unless otherwise stated, are obtainable from the Head of the school concerned, to whom they should be returned as soon as possible. Assistance with removal expenses is given in approved cases.

J.R.G. TOMLINSON MA  
Director of Education

Required for September, 1978, unless otherwise stated.

## HEADS OF DEPARTMENT

HEAD OF MODERN LANGUAGES DEPARTMENT Scale 3

**Rudheath High School**  
Shipbrook Road, Rudheath, Northwich, CW9 7DT

The person appointed will be a well qualified and experienced teacher who will be responsible for organising the teaching of modern languages throughout the school which will become a 6th form entry (11-16) co-educational Comprehensive school with 800 pupils on roll as from September when the first comprehensive intake will be admitted.

French will be the first language with either German or Spanish as the second. The school has an excellent language laboratory and audio visual aids room.

## SCALE 2 POSTS AND ABOVE

NEEDLEWORK SCALE 2

**The High School for Girls**  
Grammar School for 560 Girls, Menin Avenue, Warrington

A Specialist to teach the subject throughout the School to Advanced level. There are excellent opportunities to teach Craft (embroidery) to Advanced level.

Completed application forms should be returned as soon as possible, or apply by letter to the Headmistress.

GERMAN

**Stanley County Comprehensive School**  
Stanley Lane, Ellesmere Port, South Wirral  
See under 'Scale 2 Posts and above'

**1. MUSIC**  
**2. SCIENCE**  
**High School for Girls (Grammar School for 560 Girls)**  
Menin Avenue, Warrington

1. A well qualified teacher for 4 days/week. This will include, very preferably, a good knowledge of French and/or Spanish (or both) and a versatile teacher who is able to offer instrumental tuition (brass or woodwind), on the fifth day. This could also be a full time post if a suitable subject could be offered in the middle school.

2. A graduate with an interest in teaching General Science with mathematics in the middle school. This is a part-time post, 2 or 3 days per week.

**MATHEMATICS**  
**Windsford, Woodford Lodge Comprehensive School**  
Woodford Lane West, Winsford

Woodford Lodge is a mixed 11-18 Comprehensive School with 1,500 pupils. The school which opened in 1971 is purpose built and has excellent facilities in all departments.

An ability to teach the subject at all levels will be an advantage. The Mathematics Faculty, which incorporates Computer Studies, is a thriving one.

**1. FRENCH**  
**2. LATIN**  
**Halsby High School**  
Chester Road, Holsby, Warrington

No. of pupils expected on roll - 1,400.  
No. of pupils in Sixth Form - 400.  
1. A graduate to teach throughout the school including C.S.E. and 'O' and 'A' level work in the future.

2. A graduate to teach up to 'A' and 'A' level with some 'O' level work in the future. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

3. A graduate to teach the subject at all levels will be an advantage. The Mathematics Faculty, which incorporates Computer Studies, is a thriving one.

**SCALE 1 POSTS**  
**ENGLISH**  
**Lynn County High School**  
Grammar School Road, Lynn

To teach throughout the school initially to CSE/O level with the possibility of some 'A' level work in the future.

This 11-18 mixed secondary modern will be reorganised as a 11-18 Comprehensive school from September 1978, when a 6th form entry non-selective intake will be initiated. 'A' level classes already established.

Closing date 15th June, 1978.

**DRAMA**  
**Thorncliffe County High School**  
Widmore

State other subjects.  
The school will be formed in September, 1978, by the amalgamation of a girls' and boys' secondary modern school on one site with a comprehensive intake in year 1. Initial number on roll 1,000, with a developing sixth form.

## GEOGRAPHY

**Ponketh High School**  
Shipbrook Road, Warrington WA5 2BY  
Tel. Ponketh 2298/6533

With some history Geography and History are taught to ordinary, C.S.E. and Advanced level. There is an integrated language course for first year pupils.

The school is an 11-18 co-educational comprehensive school with a large sixth form situated in a developing residential community. Apply by letter.

## MATHEMATICS

**Christleton High School**  
Village Road, Christleton, Chester  
Pleasant village 3 miles S.E. of Chester 11-18 Comprehensive School. To teach up to 'A' level.

**MATHEMATICS**  
**Blacon High School (Mixed Comprehensive 12-18)**  
Malbourne Road, Blacon, Chester  
(Number on roll 1,200)

To teach throughout the school. Most pupils take some entry examination in Mathematics. Ability to teach to G.C.E. Advanced level would be an advantage.

**REMEDIAL EDUCATION**  
**Grange County Comprehensive School**  
Regent Street, Ellesmere Port, South Wirral, L85 8EJ  
To assist fully in the work of the Department.

**GERMAN**  
**Stanley County Comprehensive School**  
Stanley Lane, Ellesmere Port, South Wirral  
See under 'Scale 2 Posts and above'

**1. MUSIC**  
**2. SCIENCE**  
**High School for Girls (Grammar School for 560 Girls)**  
Menin Avenue, Warrington

1. A well qualified teacher for 4 days/week. This will include, very preferably, a good knowledge of French and/or Spanish (or both) and a versatile teacher who is able to offer instrumental tuition (brass or woodwind), on the fifth day. This could also be a full time post if a suitable subject could be offered in the middle school.

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**2. LATIN**  
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**SCALE 1 POSTS**  
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Grammar School Road, Lynn

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## THE TIMES EDUCATIONAL SUPPLEMENT 26.5.78

SECONDARY  
Modern Languages  
continued

## Other Posts on Scale 2 and above

**CROYDON**  
(London Borough of) Croydon High School, Croydon, Surrey

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**HAVERING**  
(London Borough of) Havering High School, Havering, Essex

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**ESSEX**  
**ROSEVILLE SCHOOL**  
(11-18 mixed, 1,300)

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**WELSH JOINT EDUCATION COMMITTEE**  
**CYD-BWYLLGOR ADDYSG CYMRU**

Appointment of  
**Examiner**  
General Certificate of Education  
Ordinary Level 1979

Applications are invited from practising teachers and from other persons with recent experience of teaching for the appointment of Chief Examiner in LATIN.

It is not the normal practice of the Joint Committee to appoint, as examiners for GCE examinations, teachers who are serving in schools which are WJEC examining centres.

Further particulars and application forms (to be returned by June 16, 1978) may be obtained from D. Andrew Davies, Secretary, Welsh Joint Education Committee, 245 Western Avenue, Cardiff CF1 2YX.

A stamped addressed envelope must be enclosed and the outer envelope should be endorsed 'Examinations'.

**Project Co-ordinator:**  
Educational Resources  
Organisation and Management

The Coordinator will lead a team concerned with the production of guidelines which would enable schools to organise and manage systematically their educational resources.

The appointment is for one year full-time commencing September 1978 (or sooner).

Salary £8,000 to £8,000 p.a. according to qualifications and experience.

Secondment arrangements would be considered favourable or the post might suit a recently retired head teacher.

Further details from The Office Manager,  
Council for Educational Technology,  
25 Devonshire Street, London W1N 2BA.

**CET**  
**TES TRAVEL OFFER INDIA**  
2 weeks from July 23  
£520

For details write to:  
TES North India Tour, Lunn Poly Limited, Group  
Travel Operation, 43 Smithway Way, Coventry  
CV3 1FY. Quote reference TS/IND/247.

**NOTTINGHAMSHIRE**  
**COUNTY COUNCIL**  
EDUCATION DEPARTMENT  
Nottingham City Centre, Nottingham

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**SUFFOLK**  
**COUNTY COUNCIL**  
Suffolk High School, Suffolk

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**BUCKINGHAMSHIRE**  
**COUNTY COUNCIL**  
Buckingham High School, Buckingham

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**CALEDONIA**  
**EDUCATION DEPARTMENT**  
Caledonia High School, Caledonia

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**WEST SUSSEX**  
**COUNTY COUNCIL**  
West Sussex High School, West Sussex

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**CLYDE**  
**COUNTY COUNCIL**  
Clyde High School, Clyde

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**BARNSLEY**  
**COUNTY COUNCIL**  
Barnsley High School, Barnsley

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**REDFOURSHIRE**  
**COUNTY COUNCIL**  
Redfour High School, Redfour

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**ROXLEY**  
**COUNTY COUNCIL**  
Roxley High School, Roxley

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**CORNWALL**  
**COUNTY COUNCIL**  
Cornwall High School, Cornwall

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**CROYDON**  
**COUNTY COUNCIL**  
Croydon High School, Croydon

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**ESSEX**  
**COUNTY COUNCIL**  
Essex High School, Essex

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**MODERN LANGUAGES**  
**WARRINGTON**  
Warrington High School, Warrington

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**DERBYSHIRE**  
**COUNTY COUNCIL**  
Derby High School, Derby

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**DERBYSHIRE**  
**COUNTY COUNCIL**  
Derby High School, Derby

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

**ESSEX**  
**COUNTY COUNCIL**  
Essex High School, Essex

Head of French, Scale 2, to teach French to 'O' level and 'A' level. The school is a 11-18 co-educational comprehensive school with 1,500 pupils on roll. The school is a new comprehensive school to be formed by amalgamation of two Grammar Schools.

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**COUNTY COUNCIL**  
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## EDUCATION AND CULTURAL SERVICES COMMITTEE

### County Adviser for English

Applications are invited for the post of County Adviser for English to complement a flourishing team co-ordinated by the County Adviser for Language. The person appointed will have responsibility for English, mainly within the secondary/F.E. phases. Applicants should be graduates with successful experience as head of an English department or at a similar senior level.

The salary will be in accordance with the Southbury scales for Subject Advisers, currently £7,880, by increments to £8,375 per annum (Group B).

Application forms, which should be returned by 14th June 1978, and further details are available from the Chief Education Officer (Staff NT), County Hall, Taunton.

## ADMINISTRATION Local Education Authority continued

### BUCKINGHAMSHIRE EDUCATION WILLIAMS, OFFICER

Salary scale £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Education Department. The successful candidate will be a graduate with experience in the field of education administration.

Application forms and further details are available from the Director of Education, County Hall, High Wycombe, Bucks HP12 3JY. Closing date: 12th June 1978.

### CALDERDALE METROPOLITAN BOROUGH

#### CAREERS OFFICER, AD 3, £5,964-£8,314 (including supplements)

Applications are invited from graduates with experience in the field of careers work. The successful candidate will be responsible for the administration of the careers service.

Application forms and further details are available from the Director of Education, Calderdale Metropolitan Borough Council, Town Hall, Halifax, West Yorkshire. Closing date: 12th June 1978.

### DUDLEY METROPOLITAN BOROUGH

#### SENIOR EDUCATION OFFICER

Salary scale £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Education Department.

Application forms and further details are available from the Director of Education, Dudley Metropolitan Borough Council, Town Hall, Dudley, West Midlands. Closing date: 12th June 1978.

### DUDLEY METROPOLITAN BOROUGH

#### SENIOR EDUCATION OFFICER

Salary scale £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Education Department.

Application forms and further details are available from the Director of Education, Dudley Metropolitan Borough Council, Town Hall, Dudley, West Midlands. Closing date: 12th June 1978.

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Application forms and further details are available from the Director of Education, Dudley Metropolitan Borough Council, Town Hall, Dudley, West Midlands. Closing date: 12th June 1978.

## KNOWSLEY

### EDUCATION WILLIAMS, OFFICER

Salary scale £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Education Department.

Application forms and further details are available from the Director of Education, Knowsley Metropolitan Borough Council, Town Hall, Knowsley, Merseyside. Closing date: 12th June 1978.

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Application forms and further details are available from the Director of Education, Knowsley Metropolitan Borough Council, Town Hall, Knowsley, Merseyside. Closing date: 12th June 1978.



## BEDFORDSHIRE EDUCATION SERVICE

### APPOINTMENT OF ASSISTANT EDUCATION OFFICER (Further Education)

Applications are invited from suitably qualified and experienced candidates for the following post in the Education Department:

### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

Application forms and further details are available from the Director of Education, Bedfordshire Education Service, County Hall, Bedford, Bedfordshire. Closing date: 12th June 1978.

### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

Application forms and further details are available from the Director of Education, Bedfordshire Education Service, County Hall, Bedford, Bedfordshire. Closing date: 12th June 1978.

### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

Application forms and further details are available from the Director of Education, Bedfordshire Education Service, County Hall, Bedford, Bedfordshire. Closing date: 12th June 1978.

### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

Application forms and further details are available from the Director of Education, Bedfordshire Education Service, County Hall, Bedford, Bedfordshire. Closing date: 12th June 1978.

### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

Application forms and further details are available from the Director of Education, Bedfordshire Education Service, County Hall, Bedford, Bedfordshire. Closing date: 12th June 1978.

### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

Application forms and further details are available from the Director of Education, Bedfordshire Education Service, County Hall, Bedford, Bedfordshire. Closing date: 12th June 1978.

### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

Application forms and further details are available from the Director of Education, Bedfordshire Education Service, County Hall, Bedford, Bedfordshire. Closing date: 12th June 1978.

### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

Application forms and further details are available from the Director of Education, Bedfordshire Education Service, County Hall, Bedford, Bedfordshire. Closing date: 12th June 1978.

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Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

Application forms and further details are available from the Director of Education, Bedfordshire Education Service, County Hall, Bedford, Bedfordshire. Closing date: 12th June 1978.

### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

Application forms and further details are available from the Director of Education, Bedfordshire Education Service, County Hall, Bedford, Bedfordshire. Closing date: 12th June 1978.

### ASSISTANT EDUCATION OFFICER (Further Education)

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### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

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### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

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### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

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### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

Application forms and further details are available from the Director of Education, Bedfordshire Education Service, County Hall, Bedford, Bedfordshire. Closing date: 12th June 1978.

### ASSISTANT EDUCATION OFFICER (Further Education)

Salary Scale: £5,975 to £7,975 per annum inclusive. The person appointed will have responsibility for the administration of the Further Education Department.

Application forms and further details are available from the Director of Education, Bedfordshire Education Service, County Hall, Bedford, Bedfordshire. Closing date: 12th June 1978.



## SENIOR EDUCATION OFFICER

£7,654 to £8,185

Applications are invited from good honours graduates with teaching experience and senior administrative responsibility in a large education department. This post carries responsibility for all Primary Education and welfare services throughout the county.

Application forms and further particulars obtainable from the

Director of Education, Kennet House 80/82, Kings Road, Reading, Berkshire RG1 3BL (for the attention of C. Hennessey). Telephone Reading 55981, extension 124. Closing date: June 9, 1978.

## CHIEF EDUCATION WELFARE OFFICER

SO1 £5,044-£5,350 p.a. inclusive

Applications are invited from men or women, preferably with good experience in the field of Education Welfare, for this interesting and demanding post.

Generous relocation expenses available. Application forms and further information are obtainable from the Administration Manager, Room 708, Brent House, High Road, Wembley, Middlesex, returnable by 9th June, 1978.

Telephone: 01-903 0371 (24 hour Ansafone Service). Reference number E/48/D must be quoted.

## London Borough of BRENT

### WEST GLAMORGAN COUNTY COUNCIL

#### Education Department

#### CAREERS OFFICER

(TEMPORARY POST SUBJECT TO ANNUAL REVIEW) Salary: £5,975 to £7,975 per annum inclusive.

Applications are invited for the above named temporary post which has been established because of the present high rate of unemployment, particularly among school leavers.

The successful applicant will be required to concentrate on the problems of finding work for young people and to assist in the administration of the New Youth Opportunities Programme. Possession of a diploma in Careers Guidance or appropriate qualifications and relevant experience in the field of personnel or training, would be an advantage.

NOTE: This post is financed from Government Funds and is subject to annual review, and should the Government at some time in the future cease to finance the post, the Authority will be obliged to terminate the employment.

Salary: £3,678 to £4,014 plus Stage II supplement. Application form, returnable by June 9th, 1978, are available from The County Clerk: Central Personnel Unit, West Glamorgan County Council, The Guildhall, Swansea, Telephone: Swansea 50821, extension 2923. Please quote reference number.

## LONDON BOROUGH OF BARNET

### Education Department

#### GENERAL ADVISER FOR MATHEMATICS

Salary Scale, Southbury £9,048 to £9,755 per annum

To join a team of 10 Advisers all with specialist and general responsibilities. Varied teaching experience and a keen interest across the whole field of mathematics and computer education necessary.



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